FOREWORD

The Ministry of Natural Resources is responsible for providing opportunities for outdoor recreation and resource development for the continuous social and economic benefits of the people of Ontario and to administer, protect and conserve public land and water. In order to achieve this provincial mandate, the Ministry's broad program objectives which include Land Management, Outdoor Recreation and Resource Production require large tracts of land. Due to the diversity of objectives and the large land areas required to meet these objectives, the potential for land use conflicts is high. As a result, the Ministry of Natural Resources has embarked on a comprehensive land use planning process intended to co-ordinate the various Ministry programs, concerning the use of land, so that conflicts are minimized and all program objectives are addressed. The Land Use Planning process has a hierarchy of planning levels which include the Province, three planning regions, and the forty-seven administrative districts.

The main purpose of the provincial plan is to provide policy direction to the planning regions, while the Strategic Land Use Plan for Northwestern Ontario (SLUP), provides both policy direction and some area designation to the administrative districts. At the district level of planning, policy is to be translated into a land use plan.

In August of 1980 a draft of the SLUP for NWO was released for public review. As a result, the administrative districts have initiated the third and final level of land use planning, the preparation of District Land Use Plans.

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A:introduction

The District Land Use Plan will be developed in three phases over the next two years as follows:

Phase I	-	Background Information, Approach to Policy & Problems and Issues Report (Winter 1982)
Phase II	-	Proposed Policy and Optional Plans Report (Spring 1982)
Phase III	-	District Land Use Plan (Summer 1982)

The production of the first phase of the district plan involves the collection of detailed information concerning the present use, capability and potential of the land and water resources of the district. As well this report will address the Ministry's approach to its resource policies and will list identified problems and issues which concern the Ministry in the formulation of the district plan. Ultimately, this report will form the foundation against which the district targets will be tested, optional plans developed (Phase II) and finally from which the District Land Use Plan will evolve (Phase III).

The intent of the district planning program is to produce a plan which co-ordinates the various land and water using programs of the Ministry so that conflicts are minimized and all program objectives are addressed. A regional and provincial perspective will be recognized throughout, but primarily consideration will be given to the local residents and traditional users of the planning area. The allocation of land and water resources will attempt to ensure that development and use are compatible with the maintenance of a high quality natural environment, as well as being consistent with the expectations of local people.

Readers Caution: Quetico Provincial Park is evaluated with regard to its resource potential but because of its status as a wilderness park no other land use options will be considered for this area in the plan. A Master Plan, approved in 1977, provides management guidelines for Quetico.

B:terms of reference

The Ministry of Natural Resources is the government's official custodian and manager of Crown land. The purpose of this report is to produce a plan that will co-ordinate the various land use programmes of the Ministry so that conflicts are minimized and all programme objectives are met. The plan is to be a comprehensive document, indicating how the Ministry plans to use Crown land and influence the use of private land in order to achieve its' objectives over a period of 20 years. For Crown land, the Ministry will identify the land and water requirements for its own programmes and for all other government programmes as well.

For private land, the Ministry plans will identify the land required for Ministry of Natural Resources programmes. This will necessitate liaison and consultation with agencies, such as local municipalities, which have control over private lands as well as individual landowners.

Public participation is an integral part of the planning process. It gives people the opportunity to be involved by reviewing the plan and allowing them to become aware of its possible effects on their lives so that they can comment accordingly. Their input may result in changes to plan alternatives. Primary consideration will be given to the local residents and traditional users of the planning area. As the reports of each phase of the planning programme are completed, they will be distributed to the public for comment.

C:plan implementation

Once the Atikokan District Land Use Plan has been approved by the Ministry of Natural Resources, it will be implemented by:

- designating Crown lands under the Public Lands Act (Section 12);
- monitoring the activities of other government agencies with the implementation largely carried out through the regular programmes of the Ministry and
- the private sector to ensure that the intent of the Ministry's legislative mandates, policies, programs and the District plan are adhered to.

D:plan review

The plan will state the Ministry's programs for the plan period of approximately twenty years. These programs, in many instances, will be indicated very broadly. Detailed planning on specific sites will still be required and will be carried out by the various Divisions concerned. New information, a shift in policy or any other substantial change may make it necessary to review and update the plan. Since planning is a dynamic process, the need for a review cannot be expected to occur at planned intervals. The Atikokan District Plan, therefore, will be open to periodic review. Certain other decisions such as those from the political arena and those affected by international economic factors may cause early review and modification of the plan. Since the plan will reflect approved Ministry policy, proposed changes will be made through a formal amendment process.

A:regional context

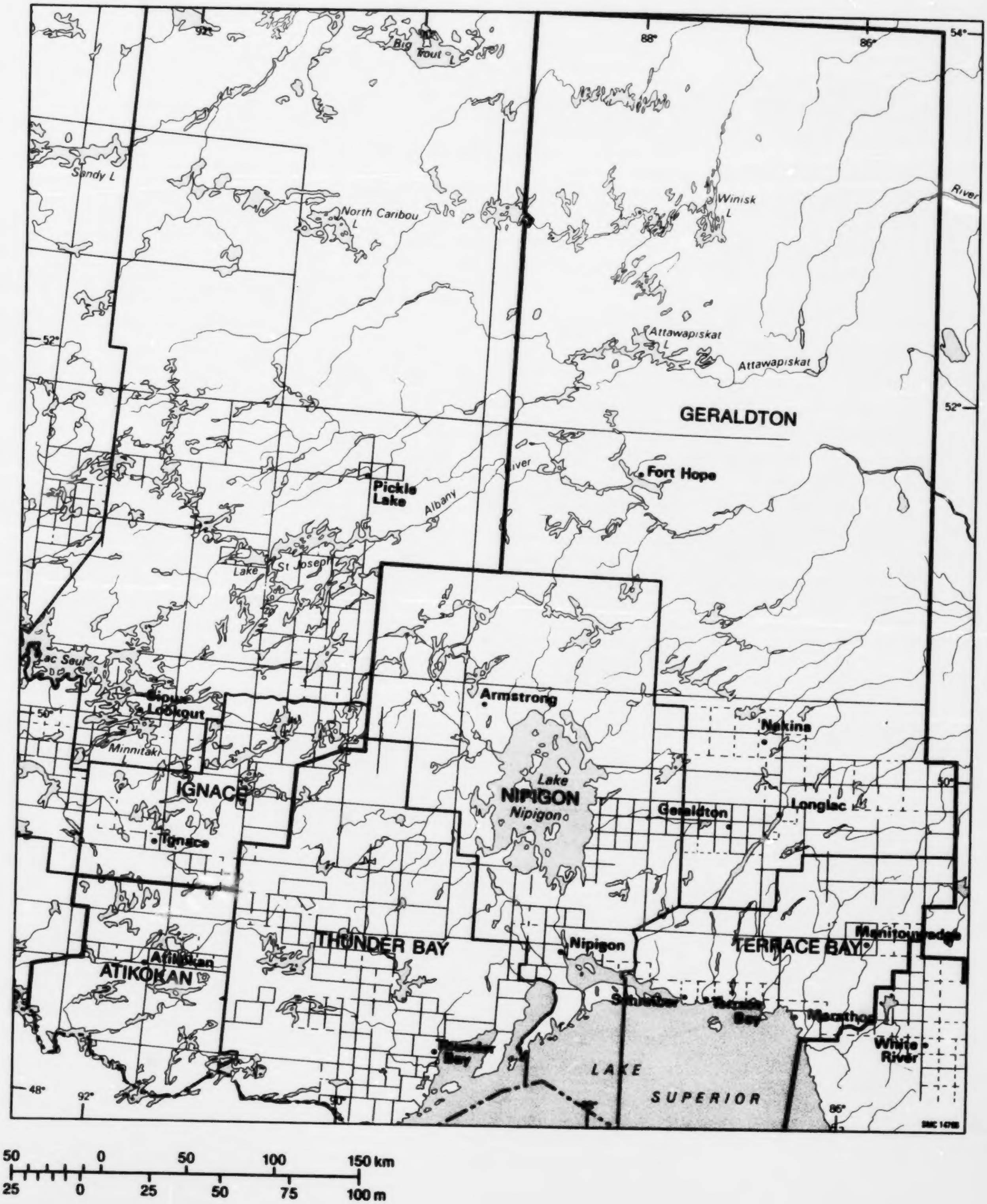
Atikokan District is one of five Ministry of Natural Resources administrative districts in the North Central Region. The North Central Region lies south of Hudson Bay and north of Lake Superior, including sections of both the Arctic and Great Lakes Watersheds. Population in the Region is generally sparse and widely scattered throughout the area with one major concentration in Thunder Bay. The Region is rich in natural resources with forest, mining and tourist industries dominating the resource related sector of the economy. (Figure 1)

B:planning area

The focus of this plan is the Atikokan Administrative District which lies within the North Central Administrative Region as shown on Figure 2.

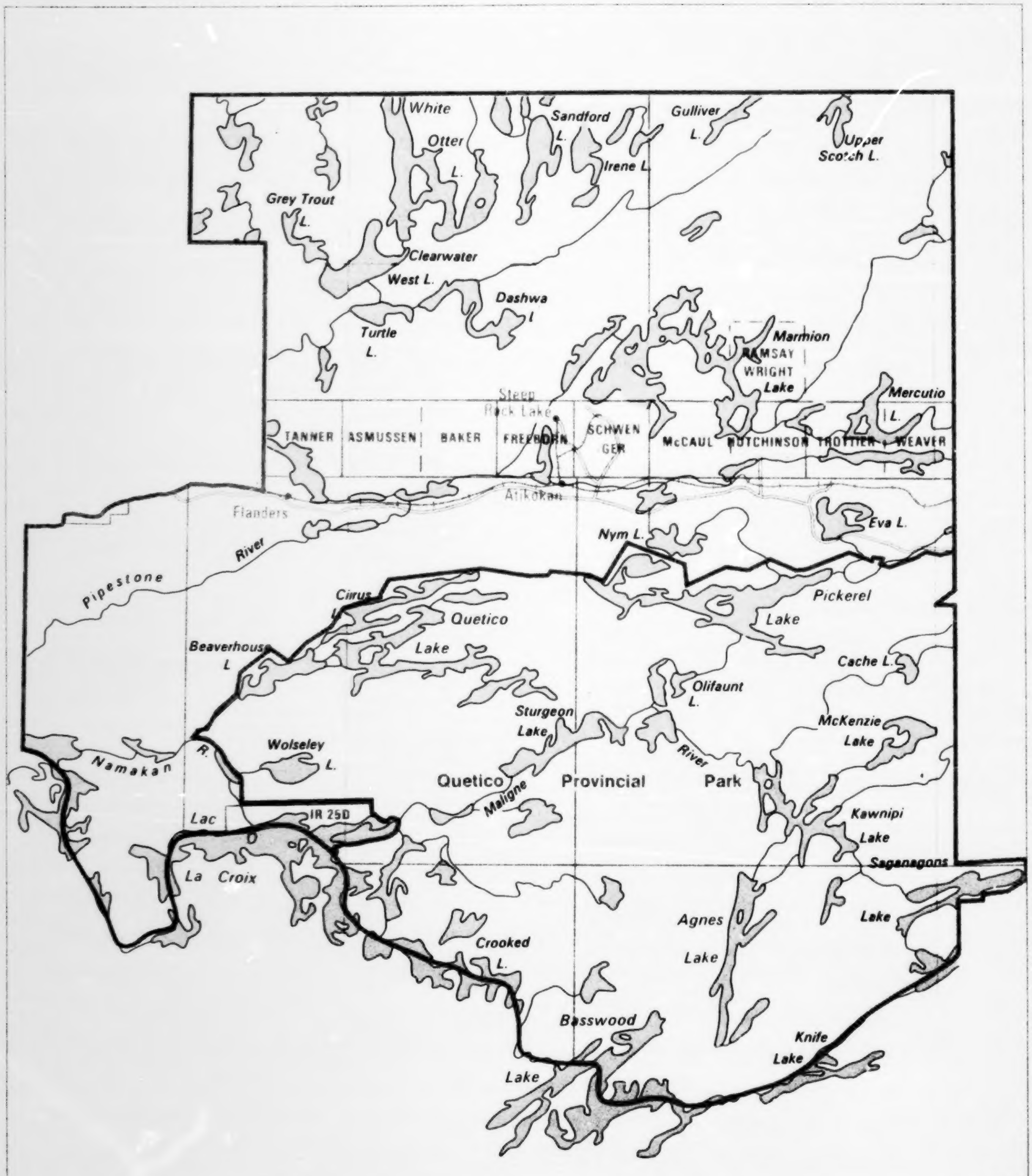
It encompasses an area of 11,321 square kilometers, and contains 12 townships, 2 Indian Reserves, the town of Atikokan and Quetico Provincial Park, the second largest wilderness park in Ontario. Total population for the planning area is 5,000 ±.

Figure 1


92°
90°
Big Trout L
88°
86°
54°
Sandy L
North Caribou L
Winisk L
River
52°
Attawapiskat L
Attawapiskat
GERALDTON
52°
Fort Hope
Pickle Lake
Albany
River
Lake St Joseph
Lac Seul
Sioux Lookout
Armstrong
Nakina
50°
Minnitaki L
IGNACE
Lake
NIPIGON
Nipigon
50°
Geraldton
Longlac
Ignace
Nipigon
TERRACE BAY
Manitouwadge
THUNDER BAY
Atikokan
ATIKOKAN
Schreiber
Terrace Bay
Marathon
Thunder Bay
White River
LAKE
SUPERIOR
48°
92°
90°
86°
SMC 14700
50
0
50
100
150 km
25
0
25
50
75
100 m

Atikokan Administrative District
North Central Region

Figure 2


White Otter L.
Sandford L.
Gulliver L.
Irene L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Steep Rock Lake
Mercutio L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
Eva L.
Nym L.
Pipestone River
Cirrus
Quetico Lake
Pickerel Lake
Beaverhouse L
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Namakan R.
Wolseley L.
Quetico Provincial Park
Maligne River
Kawnipi Lake
Lac La Croix
IR 25D
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
SMC 14742
10 0 10 20 30 km
5 0 5 10 15 20 m

C:climate

The province of Ontario is primarily influenced by the continental polar air mass from the north. However, the proximity of Atikokan to the western prairies results in a warmer, drier climate due to the influence of the continental dry air mass from the Rockies. This mass decreases humidity while increasing evaporation and transpiration, resulting in a "western" influence on the local flora and fauna. The mean annual temperature for the District is 1.1°C. The mean daily July temperature is 17.5°C and the mean daily January temperature is -19.6°C. The average frost free period is 72 days with the latest recorded Spring frost June 16 and the first recorded Fall frost August 28. Average annual precipitation is 71 centimeters. The prevailing winds in the spring and summer are predominantly from the southwest, while in the winter, they are from the northwest.

D:bedrock geology

All of the Atikokan District is underlain by rocks of Early Precambrian age which commonly give radiometric ages of 2.5 to 2.9 billion years. The oldest units are east to northeast trending belts of metavolcanic and metasedimentary rocks with the east striking Quetico Fault separating the metavolcanic rocks on the north from the metasedimentary rocks to the south. These units are commonly referred to as "greenstone" belts. The metavolcanic rocks are generally mafic in composition with rocks of intermediate to felsic composition occurring locally. Where the latter are of sufficient areal extent they are indicated on the bedrock geology map as a separate unit; this is done because of the importance of felsic volcanic rocks in mineral exploration. Ore grade ironstone was associated with the volcanic rocks in the area of Steep Rock Lake; it was this iron stone which gave rise to the iron mines of the area. Sulphide bearing ironstone is present near the Quetico Fault zone; the ore product from the Atikokan Iron Mine came from this unit.

The metasedimentary rocks commonly comprise sandstone, mudstone and related rock types and with increasing distance from the Quetico Fault grade of metamorphism increases and the rocks grade into biotite schist, biotite gneiss and associated migmatitic rocks. These "greenstone" units are generally considered to have formed in a submarine environment. Small intrusions of ultramafic rock occur within the metasedimentary rocks. Because of their size they cannot be shown on the bedrock geology map but they are mentioned here because of their potential for precious metals.

The rest of the district is underlain by granitic rocks which occur as massive to weakly foliated batholiths formed from the cooling of magma at depth, or as layered migmatitic rocks derived from the partial melting of pre-existing sedimentary or volcanic rocks. Subsequent erosion has exposed them to the earth's present surface. During this period of granitoid emplacement the volcanic and sedimentary rocks were folded to form linear mountain belts, the cores of which remain today as "greenstone" belts.

A small alkalitic intrusion comprising malignite occurs in the Poohbah Lake area in Quetico Park. Diabase dikes are found throughout the area but are too small to be shown on the map. (Figure 3)

E: surficial geology

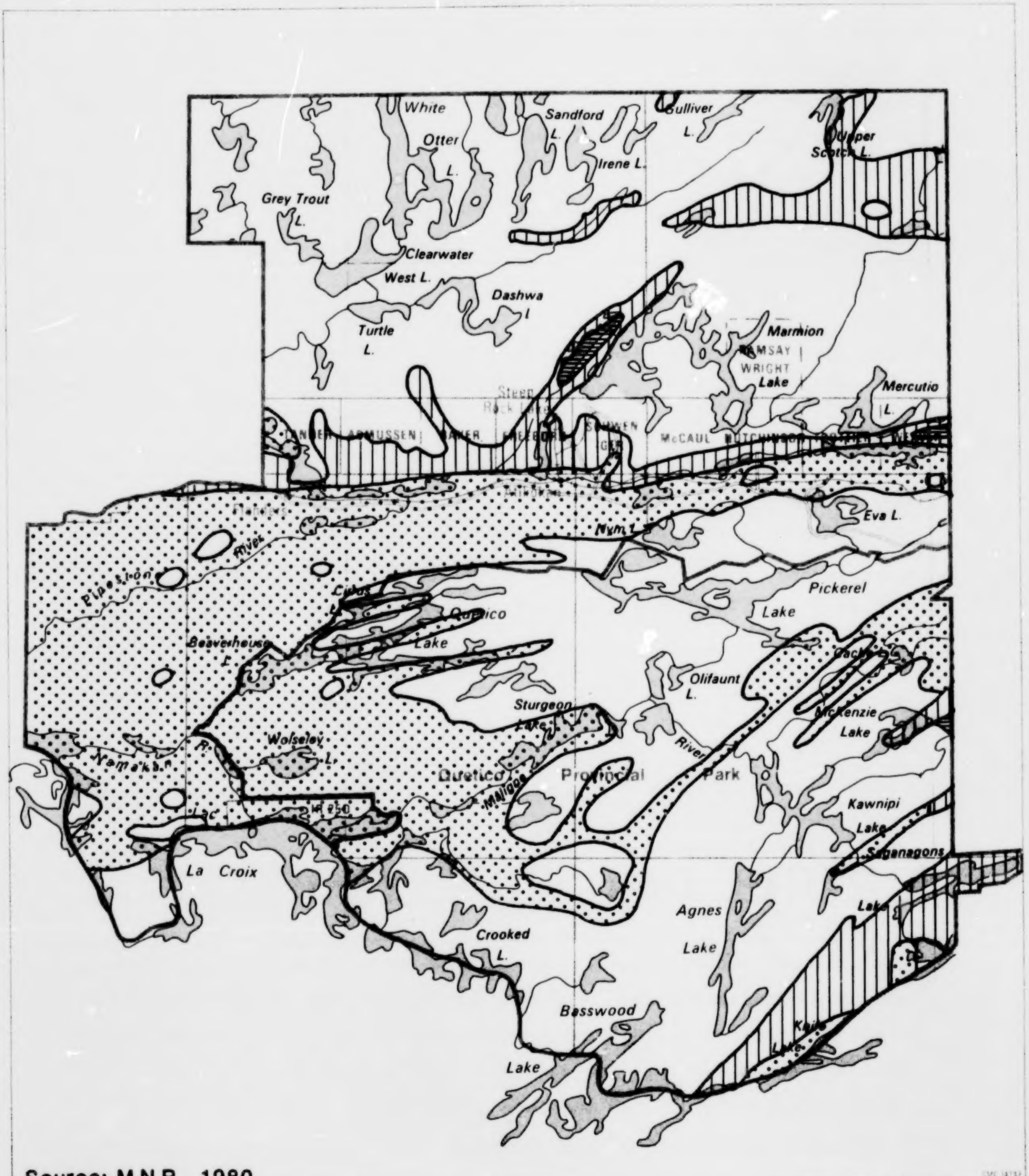
The surficial deposits of the district were formed primarily during the Pleistocene. All of these Pleistocene deposits were formed during the Wisconsin glaciation. Individual glacier lobes advanced and retreated in a quite complex fashion producing a landscape typical of a glaciated

Bedrock Geology

Figure 3

LEGEND

- ☐ Granitic Intrusive Rocks and Migmatic Complexes
- ⁘ Metasedimentary Rocks
- ▤ Intermediate to Felsic Metavolcanic Rocks
- ▥ Intermediate to Mafic Metavolcanic Rocks


White
Otter
L.
Sandford
L.
Irene L.
Gulliver
L.
Upper
Scotch L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock L.
Mercutio
L.
ANDER
ARMUSSEN
BAKER
GREGORY
BOWEN
McCAUL
HUTCHINSON
Nym L.
Eva L.
Pipestone
River
Cirrus
Quetico
Lake
Beaverhouse
L.
Pickerel
Lake
Olifaunt
L.
Sturgeon
Lake
Wolseley
L.
Namakan
R.
Quetico
Provincial
Park
River
Maligne
McKenzie
Lake
Kawnipi
Lake
Saganagons
Lake
La Croix
Lac
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

Precambrian shield area.

The Atikokan District may be separated into two areas by the Eagle Finlayson moraine trending northwest southeast across the district. This feature has been modified extensively by lake action and generally exhibits a central boulder core flanked with stratified sands and gravels. South and southwest of this feature a mantle of ground moraine, essentially, a silty sandy till, predominates. Till is a nonstratified, not obviously sorted, sediment deposited directly by glacier ice. The depth of this deposit is quite variable and in some areas thins to a point where bedrock becomes the dominant feature. Glaciofluvial outwash, that is, sands and gravels deposited in fluvial environments beyond the glacier, may be observed in and to the north of Asmussen Township. These deposits characteristically are well-sorted and stratified. Fine to medium-grained glaciolacustrine sands occur north and northwest respectively of Mack Lake and Calm Lake. Also, varved clay and silt has been observed north of Ferguson Lake. These sediments generally reflect deposition in relatively low energy, deep water lake environments.

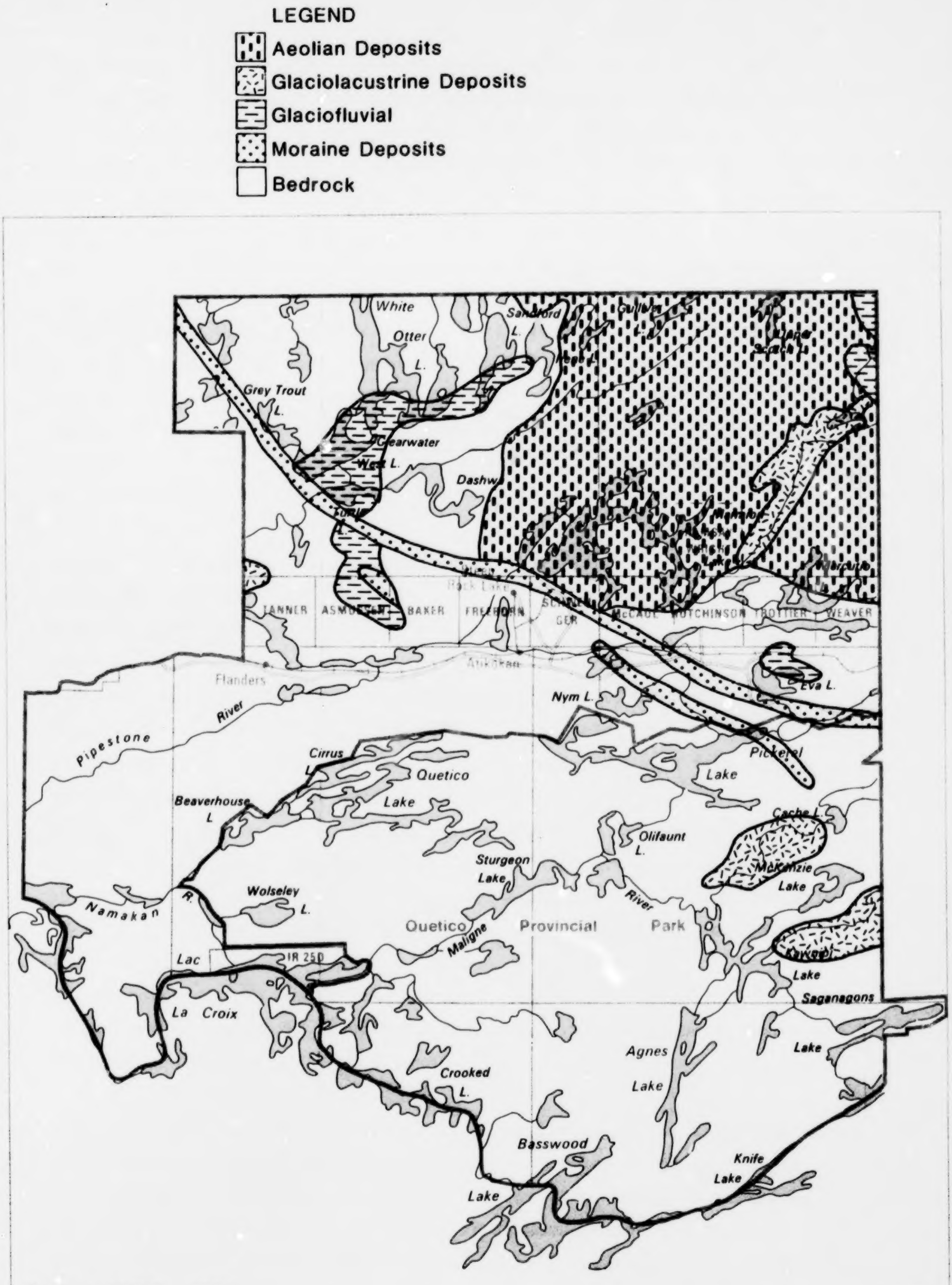
North and northeast of the Eagle Finlayson moraine the dominant surficial deposit is a very fine-grained, windblown, blanket deposit known as loess. This deposit is comprised predominantly of silt and very fine sand, and, possibly, was derived from nearby outwash plains. Glaciofluvial and glaciolacustrine deposits, similar to those described earlier, also occur. (Figure 4)

F: topography and soils

The topography of the district was shaped and modified by 2500 million years of erosion and several glacial periods. The Pleistocene Glaciers removed soil and rock, gouged numerous depressions in the bedrock and blocked and disrupted the existing drainage pattern. When the glaciers finally retreated about 10,000 years ago, the district topography consisted of rolling hills, rugged bedrock outcroppings, gravel ridges and countless gullies. Water from the melting glaciers filled the ice-gouged depressions

Surficial Geology

Figure 4


LEGEND
Aeolian Deposits
Glaciolacustrine Deposits
Glaciofluvial
Moraine Deposits
Bedrock
White
Otter
L.
Sandford
L.
Grey Trout
L.
Clearwater
West L.
Dashw
Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Flanders
Atikokan
Eva L.
Nym L.
Pipestone
River
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Wolseley
L.
Namakan
R.
River
Quetico
Maligne
Provincial
Park
Kawnipi
Lake
Lac
IR 25D
La Croix
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

creating a myriad of long linear north-east and south-west oriented lakes.

The elevation of the district varies between 350 meters above sea level in the Trout-Lilac lake area near the south-west boundary of the district to 486 meters around Old Man and Upper Scotch lakes near the north-east boundary of the district. The mean elevation is approximately 426 meters above sea level.

According to Canada Land Inventory (C.L.I.) land classification map, the district is divided into two macrorelief categories, weakly broken plains and moderately broken uplands of unconsolidated inorganic material of varying depths. The most prominent topographic feature is the Eagle-Finlayson end moraine (Steep Rock Moraine) a 240 kilometer sand ridge which extends north of Clearwater West Lake in a south-east direction into Quetico Park. The moraine is a narrow ridge attaining heights of 30 meters above the surrounding area. (Figure 5)

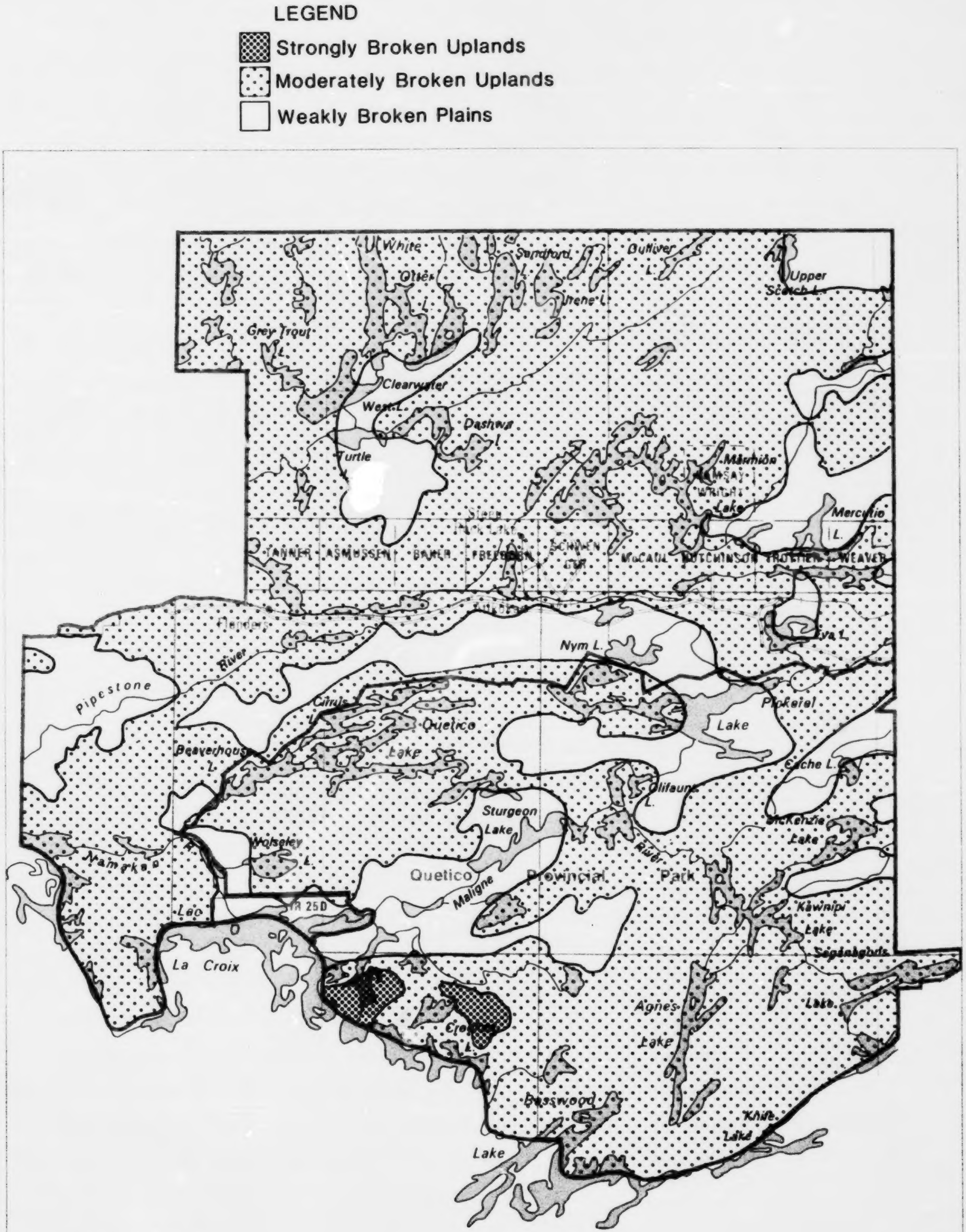
The most wide spread soil substrate in the district is composed of sand mixed with gravel, stones and boulders. It forms a discontinuous layer usually less than 1 meter deep. This material can be divided into two broad categories depending upon the type of bedrock from which it was derived. Ground moraine derived from granite is quite acidic and is extremely low in nutrients; consequently, the quality and diversity of the ecosystem it supports is low. Ground moraine derived from metasediments and greenstone bedrock is moderately acidic and rich in nutrients readily usable by vegetation. Thus, these areas support a more diverse and numerous ecosystem. Since glacial till was only moved short distances by the glaciers, the two types of ground moraine will be found directly on top of or a short distance south-west of the respective bedrock source.

The northeastern section of the district is characterized by a thin layer (less than .6 meter) of stone free sand and silt called loess, which was originally deposited by wind action.

Lacustrine deposits of sand are found along the course of the Seine River from Banning and Perch Lake through to the Atikokan townsite. These deposits are more pronounced where the Seine River meanders northward from Melema Lake to the south shores of Richardson and Old Man Lakes. Small pockets of varved clays between .61 to 9 meters deep are found in some valleys and low rock knobs. These deposits are very rich in calcium

Topography

Figure 5


LEGEND
▩ Strongly Broken Uplands
⁙ Moderately Broken Uplands
☐ Weakly Broken Plains
White
Otter
L.
Sandford L.
Irene L.
Gulliver L.
Upper Scotch L.
Grey Trout L.
Clearwater
West L.
Dashwa L.
Turtle
Marmion
Ramsay Wright
Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Flanders
River
Pipestone
Nym L.
Cirrus L.
Quetico
Lake
Beaverhouse L.
Pickerel
Lake
Olifaunt L.
Cache L.
Sturgeon Lake
Wolseley L.
Namakan R.
Quetico
Provincial
Park
Maligne
River
McKenzie Lake
Kawnipi Lake
Saganagons Lake
Lac
La Croix
IR 25D
Agnes Lake
Crooked L.
Basswood
Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: O.L.I., 1976

and other nutrients and are capable of supporting plant species typical of southern Ontario. (Figure 6) Outwash deposits consisting of fine sand and gravel are located in the north-western part of the District in the vicinity of Clearwater West, Turtle and Williamson Lake. A second area is found on the north shore of Eva Lake.

The Steep Rock Moraine extends 240 kilometers south-eastward through the District across the east end of Pickerel Lake. This end or terminal moraine, deposited at an ice halt position as the last ice sheet receded, is composed of sand, gravel, stones and boulders. This moraine is an excellent source of aggregate material.

The south-west extremity of the district consists of extensive stretches of bare bedrock. Overburden was removed by wave action from preglacial Lake Agassiz. (Figure 7)

G:water resources

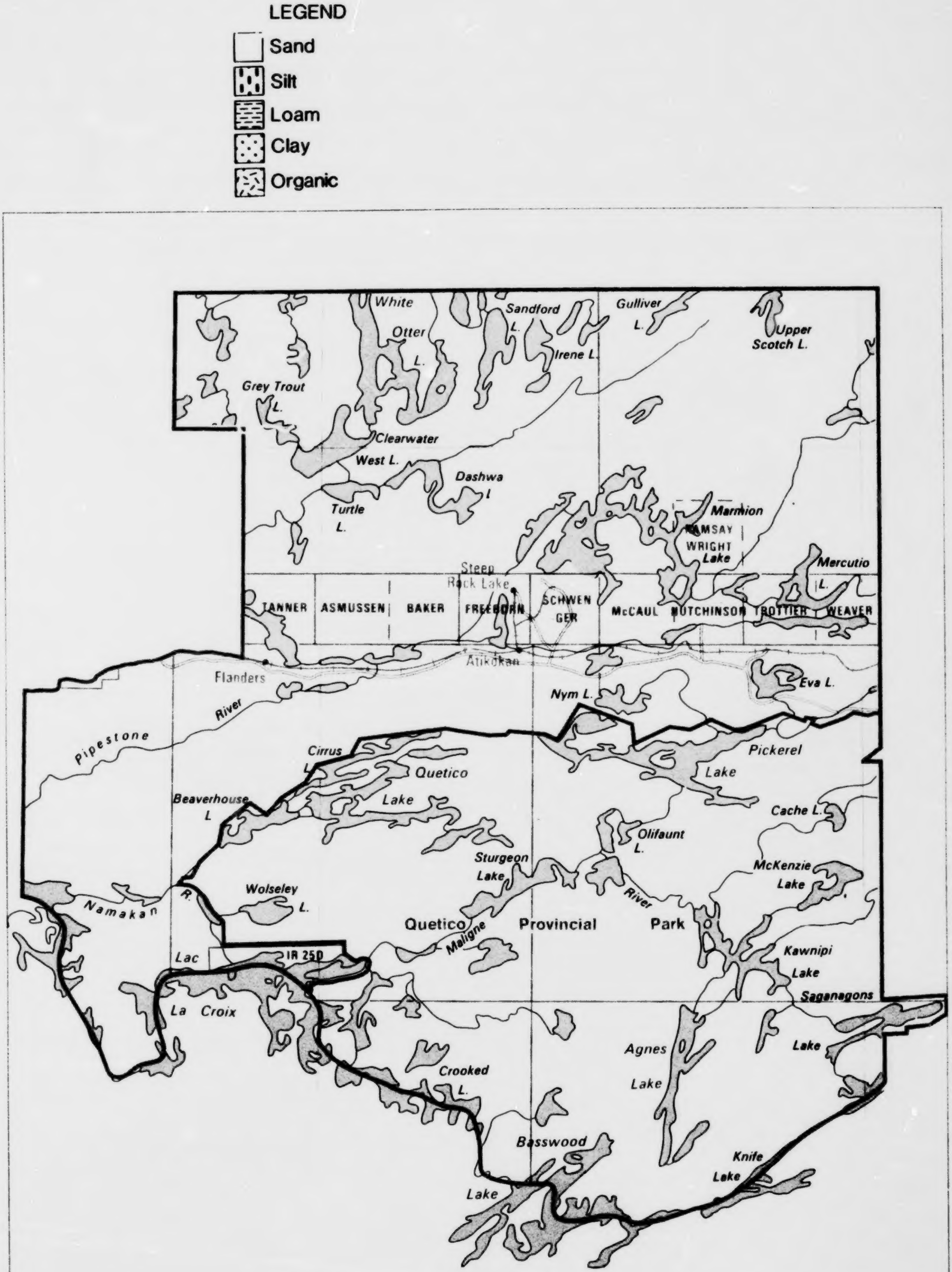
The lakes and streams of the Atikokan District all lie within the Lake Winnipeg drainage basin. These water bodies flow in a westerly direction draining into Rainy Lake, Lake of the Woods and Lake Winnipeg.

The tertiary watershed divisions found within the district, conform with the key lakes and river systems. Figure 8 shows the tertiary divisions and Table 1 their characteristics.

The district has 7,026 lakes consisting of 244,601 hectares or approximately one fifth of the area. Marmion Lake, locally known as the floodwaters, is the district's largest body of water with 10,524 hectares, followed by White Otter Lake, with 8,256 hectares. There are 1,360 lakes, between 1 hectare and 4 hectares varying from ponds and kettles or pothole lakes.

The Seine and Atikokan rivers are classified as old age river systems.

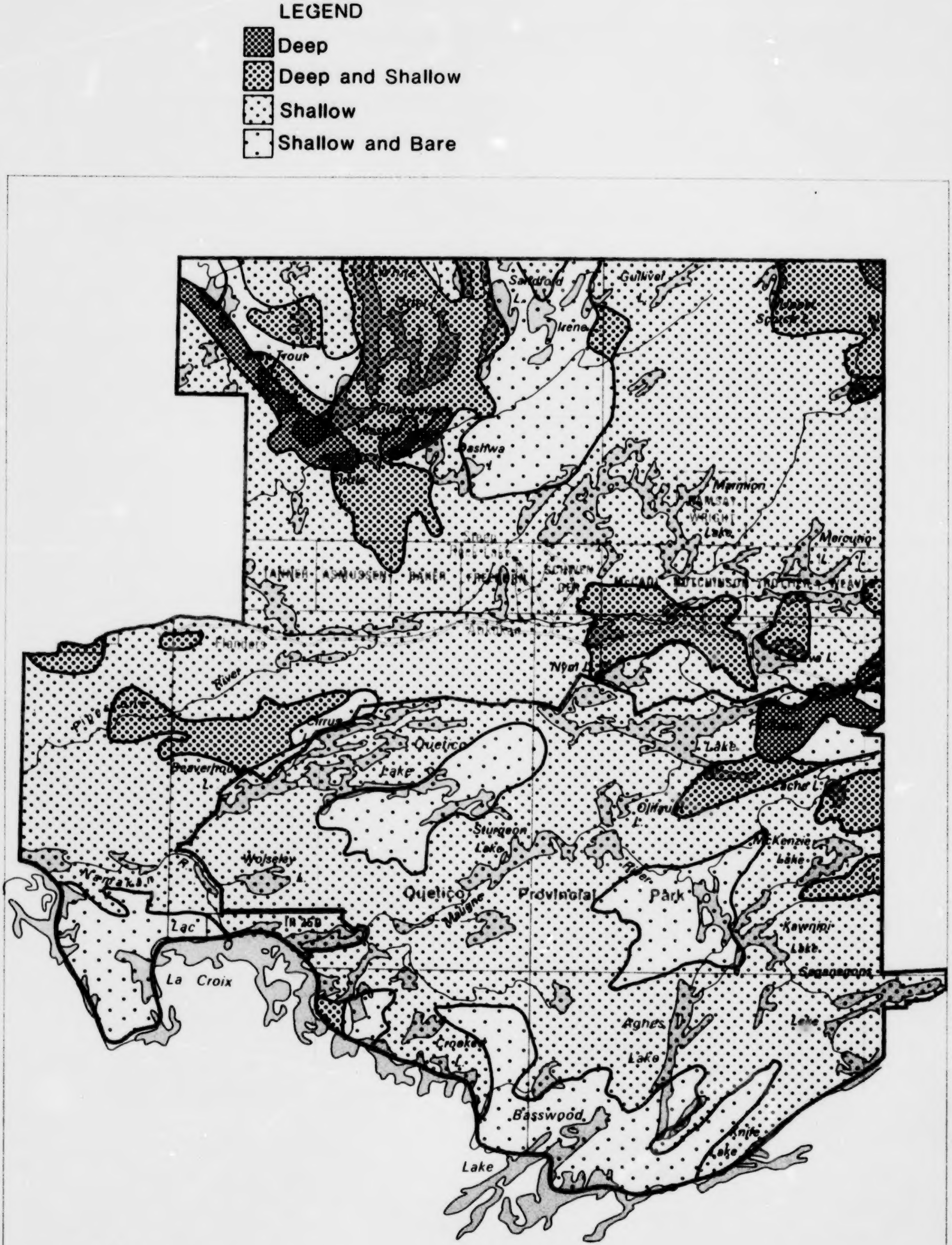
Soil Texture **Figure 6**


LEGEND
Sand
Silt
Loam
Clay
Organic
White Otter L.
Sandford L.
Irene L.
Gulliver L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Namakan R.
Wolseley L.
Quetico Provincial Park
Maligne River
Kawnipi Lake
Lac La Croix
IR 250
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m
SMC 14742

Source: O.L.I., 1976

Soil Depth

Figure 7


LEGEND
Deep
Deep and Shallow
Shallow
Shallow and Bare
White
Sandford L.
Gulliver L.
Irene
Trout
Pashwa L.
Marmion
RAMSAY WRIGHT Lake
Mercutio L.
TANNER
ASMUSSEN
BAKER
McCAUL
HUTCHINSON
Flanders
River
Pipestone
Cirrus
Quetico
Lake
Beavertrout L.
Nym L.
Lake
Cache L.
Olifaunt L.
Sturgeon Lake
Wolseley L.
Namakan R.
Quetico Provincial Park
Maligne
River
McKenzie Lake
Kawnipi Lake
Saganagons
Lake
Lac La Croix
IR 26D
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

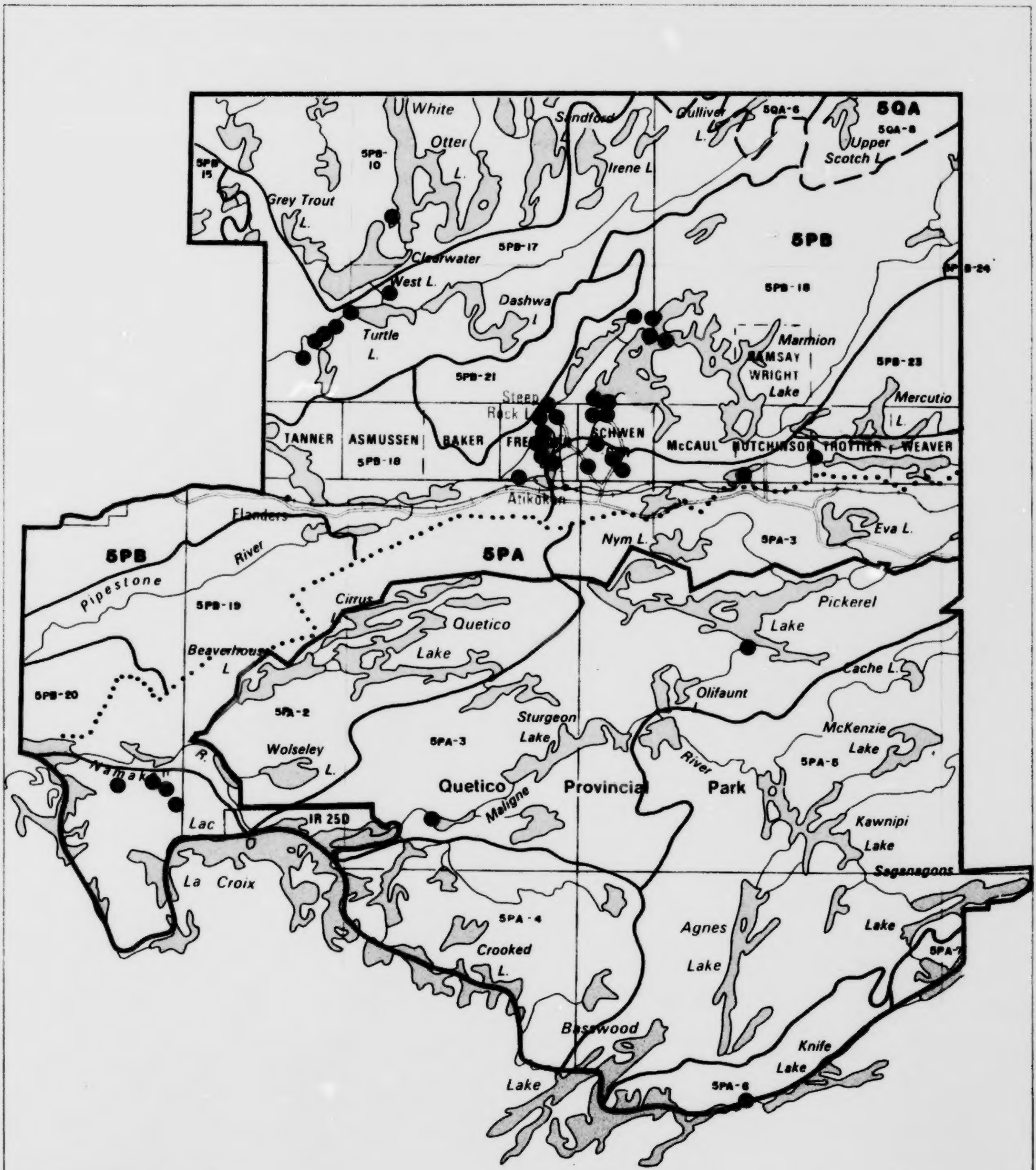
Source: O.L.I., 1976

Watersheds and Dams

Figure 8

LEGEND

- ╱ Secondary Watershed Division
- ⋰ Tertiary Watershed Division
- ╱ Watershed Units
- ● Water Control Dam


White
Otter
L.
Sandford
Gulliver
L.
5QA-6
5QA
5QA-8
Upper
Scotch L.
Irene L.
5PB-15
5PB-10
Grey Trout
L.
Clearwater
West L.
5PB-17
5PB
5PB-18
5PB-24
Dashwa
L.
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
5PB-23
5PB-21
Steep
Rock L.
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEMAN
SCHWEN
McCAUL
HUTCHINSON
TROTTIER
WEAVER
5PB-18
Atikokan
Flanders
5PB
River
Pipestone
5PA
Nym L.
5PA-3
Eva L.
5PB-19
Cirrus
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
5PB-20
5PA-2
Cache L.
Olifaunt
Sturgeon
Lake
Wolseley
L.
5PA-3
McKenzie
Lake
River
5PA-5
Namakan
R.
Quetico
Provincial
Park
Maligne
Lac
IR 25D
Kawnipi
Lake
Saganagons
La Croix
5PA-4
Agnes
Lake
Lake
Crooked
L.
5PA-7
Basswood
Knife
Lake
Lake
5PA-6
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

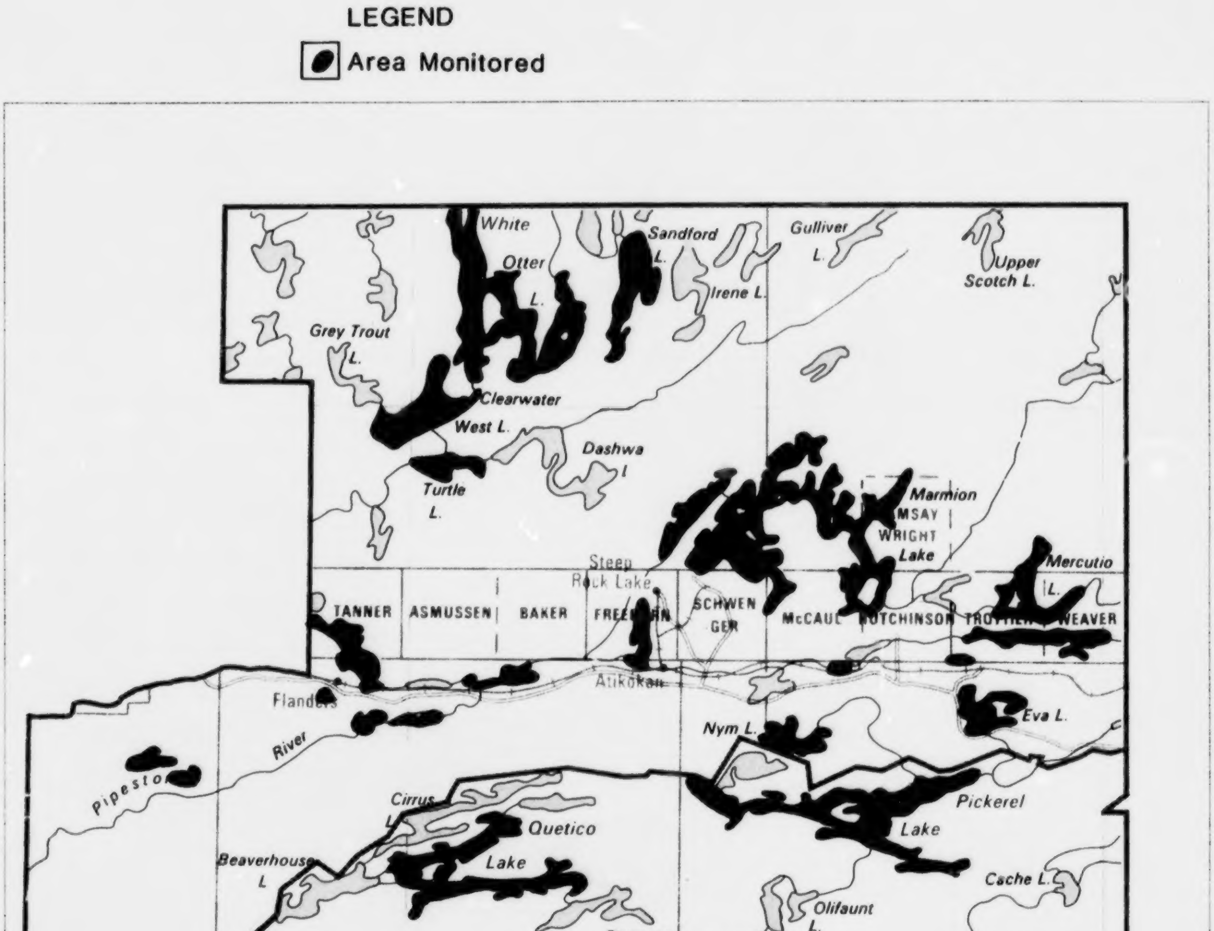
These rivers have the lowest base level due to erosion, low gradients with many meanders, narrow and defined water channels. The rivers' peak water flow is normally in late April and early May.

The water quality within the district is generally clean with no visible water pollution.

Over the years, a sampling programme has been carried out to determine mercury levels in some of the more heavily fished lakes. Figure 9 shows the lakes from which fish samples were taken and tested. It should be noted there are no direct industrial sources of mercury pollution in the district. Test results are on file in the Atikokan District office.

Lake Contaminant Monitoring

Figure 9


LEGEND
● Area Monitored
White Otter L.
Sandford L.
Irene L.
Gulliver L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Steep Rock Lake
Mercutio L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Flanders
Atikokan
Eva L.
Nym L.
River
Pipestone
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan R.
River
Quetico Provincial Park
Maligne
Kawnipi Lake
Lac La Croix
IR 25D
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m
SMC 14742

Source: M.N.R., 1980

TABLE 1 COUNTS AND MEASURES OF WATERSHED UNITS IN THE ATIKOKAN DISTRICT

CODE	WATERSHED NAME	AREA OF WATERSHED (ha)	LAKE AREA (ha)	NUMBER OF LAKES
5PA-1	Redhorse River	28,836	4,806	69
5PA-2	Lower Namakan River	106,920	28,563	576
5PA-3	Lower Maligne River Wildgoose Creek	205,173	48,974	1,260
5PA-4	Upper Namakan Lower Basswood Rivers Darky Creek	65,043	15,927	456
5PA-5	Middle Maligne Middle Basswood Rivers	202,449	30,439	1,338
5PA-6	Upper Basswood River	17,091	3,607	201
5PB-10	Turtle River	117,146	24,727	615
5PB-17	Little Turtle River	114,615	15,814	625
5PB-18	Lower Seine River - South East Rainy Lake	228,541	50,231	872
5PB-19	Pipestone River	42,525	3,872	196
5PB-21	Eye River	24,705	4,196	137
5PB-22	Atikokan River	38,678	5,388	314
5PB-23	Mercutio River	24,300	3,920	182
5QA-6	Gulliver River	13,122	2,027	81
5QA-8	Upper English Scotch River	22,154	2,110	104
TOTAL		1,251,298	244,601	7,026

Source *Derived from Counts and Measurements of Ontario Lakes by Watershed Units*

H: vegetation

The Atikokan District is located in a transitional zone between two forest regions, the Boreal Forest and the Great Lakes - St. Lawrence region.

Species characteristic of both regions can be found within the district. While limited, the inclusion of more southerly species from the Great Lakes - St. Lawrence region such as white pine, red pine, red and bur oak, ash, yellow birch, sugar maple, basswood and elm separates the Atikokan area from the majority of Northern Ontario in which the more northerly boreal species predominate.

This added diversity increases the scenic attraction of the area when compared to the more typical stands of black and white spruce, jack pine, aspen, and white birch characteristic of the rest of the north.

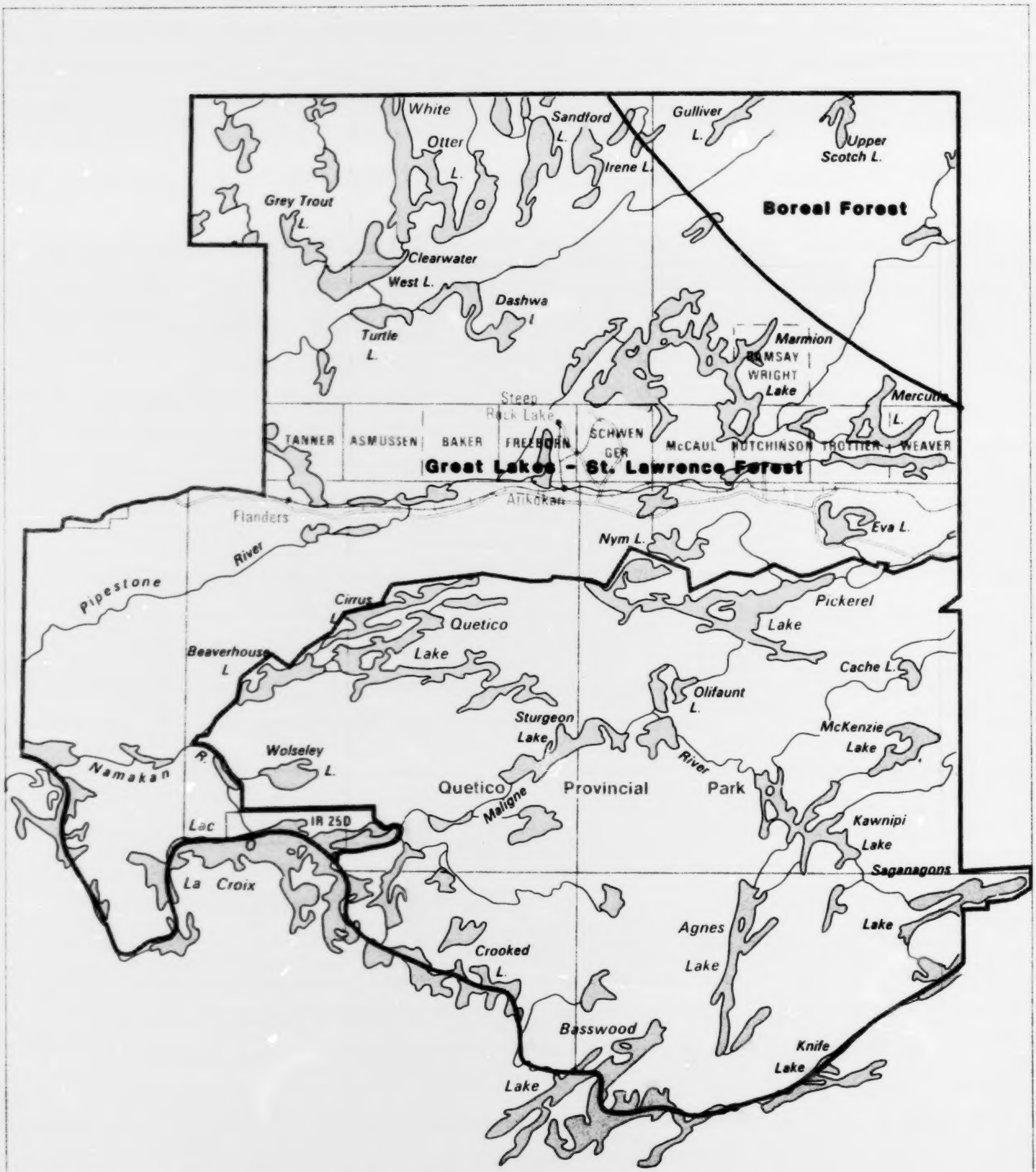
Many of these southern species, especially hardwoods are growing at the northern extent of their range and are not usually merchantable because of their smaller height and diameter. (Figure 10)

I: prehistory

The prehistory of North Central Ontario spans nearly 9,000 years, from about 7,000 BC to the 17th century AD. Archaeologists working in the area over the past 20 years have recorded over 1,000 sites belonging to the original inhabitants of Northern Ontario. Through their stone tools, broken pottery sherds, food remains, and other discarded items, the long forgotten lifeways of these prehistoric peoples are slowly and painstakingly being reconstructed.

Vegetation

Figure 10


White
Otter
L.
Sandford
L.
Irene L.
Gulliver
L.
Upper
Scotch L.
Grey Trout
L.
Boreal Forest
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Great Lakes - St. Lawrence Forest
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Namakan
R.
Wolseley
L.
River
Quetico
Maligne
Provincial
Park
Kawnipi
Lake
Lac
IR 25D
La Croix
Saganagons
Agnes
Lake
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
SMC 14742
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: Rowe J.S., 1972

1. PALAEO-INDIAN PERIOD

a. Postglacial Caribou Hunters

Ten thousand years ago, the landscape of North Central Ontario was far different from today. The Wisconsin glacier still covered the northern part of the province as far south as Lake Nipigon, and a large glacial lake, Minong, filled the Lake Superior basin. A second glacial lake, Lake Agassiz, innundated a large area from Atikokan west into Manitoba. Along the ice margins were expanses of open park land and tundra-like vegetation. Caribou and other species now found only in the far north ranged across the region.

Late Palaeo-Indian people of the Plano culture appear to have entered the Thunder Bay area from the south and west about 7,000 BC. (Unfortunately, little is yet known of these early people.) Their campsites were located on the ancient shore lines of the glacial lakes, now many kilometers inland from the present shore. Their tool kit includes distinctive lanceolate points and large stone knives. Spear points made by these people have been found in Quetico. It would appear that the Plano people were primarily hunters of large game, probably caribou, which they intercepted at crossing places on the shores of Lake Minong. Fish, fowl, edible plants and berries probably supplemented their diet.

With the recession of the continental glacier came lowering lake levels, and the northward migration of the plant and animal communities upon which the Palaeo-Indians depended for their existence. This resulted in the decline of the caribou-hunting life style in the Lake Superior region, about 5,000 BC.

---

2. ARCHAIC PERIOD

a. Diversification of Subsistence Technology

Warmer, drier climatic conditions and changes in the distribution of large game and plant communities beginning about 5,000 BC stimulated a shift in subsistence orientation to exploitation of small game and plant resources. Corresponding changes in the artifact assemblage included a reduction in the size of projectile points and the appearance of a fishing technology, which included the use of fish hooks, harpoons, net sinkers and gaffs.

Two Archaic cultures have been recognized in Northern Ontario. The people of the Shield Archaic culture appear to be descended from the Plano people, and were indigenous to the boreal forest zone, north of Lake Superior.

To the west, in the Lake of the Woods - Quetico area, there is evidence of a different culture more closely related to the Archaic cultures of the Plains. These Plains Archaic peoples appear to have entered the area in conjuction with an eastward movement of prairie-grasslands out of Manitoba and Minnesota. Perhaps the most important development of the Archaic in the Lake Superior region was the appearance of a new industry: the production of tools from native copper found on the shores of Lake Superior. Although this represents some of the earliest metal-working in the world, the Archaic people of Lake Superior were not the earliest metallurgists in the true sense of the word. Their tools were manufactured by heating and hammering the copper into shape, not by casting as was done in other parts of the world. There is evidence that copper tools were being traded widely across eastern North America at this early period.

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3. INITIAL WOODLAND PERIOD

a. Traders and Potters

Ceramics first appeared in the North Central region of Ontario about 500 BC. The earliest vessels were small pottery jars manufactured by the coil method. They had conical bases and distinctive impressed decoration executed with a toothed or sinouous-edged implement. These conical-based vessels, as well as the large burial mounds located along the Namakan River are identifying characteristics of the Laurel culture. The Laurel people practised a way of life similar to that of the Archaic people in the region: fishing, hunting, and collecting wild plants on the major waterways north of Superior. The bow and arrow is thought to have originated during this time.

There are two major theories concerning the origin of the Laurel culture in the area. One is that Laurel arose out of an Archaic base, and differed from it only in that pottery had been adopted. The other suggests that Laurel people moved into the area from the south and east, following the expansion of wild rice into the Upper Great Lakes area about 500 BC.

By the Initial Woodland period, extensive exchange networks had been established which stretched from the eastern seaboard to the Rocky mountains. The Laurel people appear to have participated actively in this network. Artifacts made from Lake Superior copper have been found on sites throughout eastern North America, while such exotic items as marine shell beads from the Atlantic coast, stone tools of Knife River chalcedony from North Dakota, and obsidian from Yellowstone Park, Wyoming, have been found on Laurel sites in the Lake Superior region. Long distance trade was faciiitiated by the extensive system of waterways linking Lake Superior with the east, west, north, and south - the same transportation network which would be utilized by the fur traders over a thousand years later.

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4. TERMINAL WOODLAND PERIOD

a. Late Prehistoric Cultures in the Lake Superior Region

Two indigenous cultures, both of which appear to have developed from a Laurel cultural base and carried on similar ways of life, were present in the Terminal Woodland period. In the vicinity of Lake Superior are sites of the Blackduck culture. The Blackduck culture is characterized by globular pottery vessels, texturized with a cordwrapped paddle. To the north is the Selkirk culture, distinguished archaeologically by its fabric-impressed globular vessels.

The Selkirk culture is believed to be that of the prehistoric Cree. There is, however, considerable controversy over the ethnic identity of the Blackduck culture: some researchers believe Blackduck is prehistoric Assiniboine, due to the strong similarities in material culture with historic Siouan groups to the south: others have suggested that Algonkian-speaking people, historically identified as the Ojibway, produced the Blackduck culture; still others are of the opinion that, given our present state of knowledge, no direct correlation can be drawn between archaeological cultures and historically-identified linguistic groups. These people were probably the originators of the Indian Rock paintings. The Atikokan district has a high concentration of pictographs, mostly within Quetico. A large majority of the pictographs are found on rock cliffs overlooking water and almost all of the paintings are done in red ochre. Little is understood about the meaning of these paintings and structures but is is believed that many date to the Woodland period and that they are of religious significance.

Iroquoian pottery from Southern Ontario and Plains and Michigan derived ceramics are occasionally found on late prehistoric sites in the North Central area. Whether these represent objects of trade, or the presence of small groups of non-local people in the area, has yet to be determined.

On sites dating to the latter part of the 17th century, glass beads, scraps of metal, thimbles, and other articles provide evidence of culture - that of the European fur traders. The influx of European trade goods in the late 1600's signals the beginning of the adoption of, and adaptation to, Western culture by the native peoples of the North-Central Ontario.

Throughout the late 17th and 18th centuries the native people were drawn into the European fur trade. Two significant water routes enroute to the west pass through the Atikokan district, became fairly well known to fur traders and explorers.

By 1850 the fur harvest underwent a considerable decline due to the sustained heavy harvests and the loss of fur bearers habitat due to land clearing.

J:fur trade

Following the explorations of de Noyon in 1688, de la Noue in 1717, and La Verendrye in 1731, for fur trade began in earnest with the setting up of trading posts on Lake of the Woods and Rainy Lake. The French trade was based on their headquarters at Grande Portage and utilized the border route in their travels to the west (Pigeon River, Fowl Lakes, Moose Lake, Mountain Lake, Rose Lake, North and South Lake, Gunflint, Saganons, Knife Lake, Basswood, Lac la Croix to Rainy Lake) with very little traffic on the northern route taken by de Noyon.

Following 1759 when the French fur trade disappeared after the fall of Quebec, independent traders from Montreal moved in to take over the trade. In order to compete with the Hudson's Bay Co. the independents combined in 1779 to form the North West Co., and made Grande Portage their headquarters on Lake Superior. Using the border route to the west, they continued to compete with the Hudson's Bay Co. for the fur of the country.

In 1798 Roderick McKenzie rediscovered the route de Noyons travelled 110 years earlier. The North West Co. established a new headquarters at Fort William at the mouth of the Kaministiquia River in 1801. The annual fur brigades now began to travel through the heart of what we now call the Atikokan-Quetico area, following the route originally pioneered by de Noyon, and this continued to be the main route to the west until the coming of the railroads.

The catch of fur in the country beyond the height of land declined as the area became trapped out almost to the point of the extinction of some fur bearing species, and the North West Co. expanded its operations further west as far as Athabaska, forcing the Hudson's Bay Co. to establish posts in the interior in order to be able to compete. The North West Co. continued to operate until 1821 when it was amalgamated with the Hudson's Bay Co.. Following the union, the operations of the Hudson's Bay Co. continued by way of Hudson Bay. The traffic from the fur trade had disappeared completely by the 1850's outside of local trade to small posts operated by Hudson's Bay Co. at Savanne, Pine Portage on Pine Lake in Quetico Park, and McLaren's Post, operated by the independent trader on an island in Sturgeon Lake. Even as the traffic of the fur trade declined on the route, a new and more urgent need was developing for a route to the west.

With the completion of the Canadian Pacific Railroad in 1882, the Atikokan area entered a new era. Reports of mineral finds were beginning to be heard and demand for the wood increased.

In 1899, Atikokan became a community with its designation of Atikokan as a divisional point for the Canadian National Railway.

The municipality of Atikokan was incorporated into a Township, January 1, 1953.

K:resource development

In 1937, iron ore was discovered at the bottom of Steep Rock Lake and with the threat of war in 1942, the task of pumping out Steep Rock Lake began in earnest. The first iron ore was sighted in 1944 and by 1979 the two established mines, Steep Rock Iron Mine and Caland Ore Company, were producing 2,520,000 tonnes of high grade ore a year. Today, both these iron ore mines have ceased operations with a loss of employment for 1,000 people.

Logging and mineral exploration were closely linked in the early days with mines being the prime users of timber. The first recorded logging in the district took place in the latter part of the 19th century when railroad and agriculture development in the west created great demands for railroad ties and lumber.

The historical canoe routes of the voyageurs and fur traders in the south provided the means of driving the wood to the large sawmills established in the Fort Frances area. The Seine and Turtle River system provided similar access in the north. Any readily accessible sawlog timber, as well as red and white pine stands, were depleted. These stands were logged during the period 1918 to 1946, with the Shevlin-Clarke timber company being the most notable operator.

The J. A. Mathieu Company, operating since the 1930's cut much of what is now the Sapawe unit. Wood was first transported by river drive to Fort Frances, then to Sapawe upon establishment of a stud mill there. Overland hauling commenced in 1953.

The Flanders area experienced a lengthy period of inactivity from the late 1940's until the completion of Highway 11 west to Fort Frances in 1964. Highway road access along with mill expansion in Fort Frances, increased the demand for pulpwood species in the area.

The Shevlin-Clarke Lumber Company sold their kraftmill facility and licence area to the Ontario-Minnesota Paper Company (now Boise Cascade of Canada Limited) in the late 1940's.

In 1965 Atikokan District was divided into two Crown Management Units and one company unit. Part of the Flanders Crown Management unit as well as a portion of the Boise Cascade Seine Concession, extend beyond the district boundary into Fort Frances District. The Sapawe Crown Management Unit is entirely within the Atikokan District.

Each unit is regulated under an approved Forest Management Plan. The management plan for the Flanders Unit expires on March 31, 1985. An interim plan for the Sapawe Unit, effective until March 31, 1985, has been submitted and is currently awaiting approval.

The Seine Concession is regulated under a company plan, submitted by the Ontario-Minnesota Paper Co. in 1967, expiring on March 31, 1987.

L:population

From 1899 to 1940, the district's population of 600 was credited to the Canadian National Railroad. The town of Atikokan was a divisional point on the railway and the population center of the district. The following 10 years resulted in an iron ore boom and consequently the population increased to 3,000; five times the previous figure.

A peak period of growth occurred between 1940 - 1960, with the development of full scale operations at both Steep Rock and Caland Ore mines. By 1960, the population had doubled again to 6,000 with minor fluctuations. The peak population of 6,275 occurred between the years 1966 to 1971. The late 1970's resulted in a steady decline in population with the closure of the iron mines, the town's main industrial base.

Today the population of the Atikokan Administrative District is approximately 5,261 people. Based on 1976 Canada Census, ninety-four percent of the people resided within the Township of Atikokan. The remainder lived in Sapawe (pop. 34), Flanders (pop. 8) and on the Lac la Croix Indian Reserve (pop. 210). Of the 4,703 people living within the township, fifty-three percent of the residents are 30 years of age and under, twenty-three percent are in the 30 - 50 year age bracket, and twenty-four percent are in the 50 years and over category. (Table 2)

Several nationalities are present in Atikokan. Those of British decent account for 50.5 percent of the total population. European 31.9 percent, French Canadian 10.6 percent, native people 1.6 percent and an additional

5.4 percent for others make up the remainder.

The decline and eventual levelling off of the population base will likely have little or no effect on most Ministry programmes.

TABLE 2 POPULATION DISTRIBUTION

Population Distribution in Atikokan District

Organized Townships	Population	
Atikokan	4,703	
Unorganized Territory	348	*(1)*
Indian Settlement		
Lac la Croix	210	
Total	5,261	

Population Distribution by Settlement

Settlement	Population		% of District Population
Atikokan	4,703	*(2)*	89.39
Sapawe	34	*(3)*	.65
Flanders	8		.15
Indian Reserve	210		3.99
Other	306		5.82
Total			100.00

Notes *(1)* *Estimate based on number of permanent dwellings*

(2) *Municipality Census Report - 1980*

(3) *Statistic Canada, 1976 Census*

M:employment

A total of 1,464 people were employed full time within the district in

1980 as compared to 1,984 in 1978. Today one third of the full time workers are employed in forestry and forest products where mining and mineral processing once employed half of the Atikokan full time workers. Other major employment groups include retail and related services (20%), education (7%) and government agencies (6%).

The following table provides an economic breakdown of the distribution of employment of Atikokan work force by industry. *(1)*

TABLE 3 EMPLOYMENT BY INDUSTRY - ATIKOKAN, 1980 *(2)*

Industry	Full Time	Part Time	Full-Time as Percentage
Mining and Mineral Processing	51	5	3.5
Forestry and Forest Products	464	24	31.7
Manufacturing	6	1	.4
Industrial Supplies	17	6	1.2
Construction	25	23	1.7
Transportation	49	14	3.4
Retail and Related Services	292	137	20.0
Accommodation	91	81	6.2
Finance	40	4	2.7
Professional Services	73	68	5.0
Education	103	27	7.0
Government Agencies	88	317	6.0
Township Services	78	48	5.3
Ontario Hydro Related *(3)*	87	--	5.9
Total	1,464	755	100.0
Non-Local Hydro Related *(4)*	141	--	
Non-Local Construction *(5)*	91	3	

Notes

(1) Source - Atikokan Development Needs - Brian W. Ross, Economic Development Commissioner, Township of Atikokan

(2) Based on survey of employees in and near Atikokan, an attempt has been made to exclude non-residents.

(3) Includes persons with an established residence in Atikokan, employed at Hydro site.

(4) Includes persons either boarding in Atikokan, or living in the Hydro camp, employed at the Hydro site.

(5) Includes employees of non-local contractors engaged in road construction and related temporary projects.

N:land tenure

Ninety-eight percent (98%) of the land base in the Atikokan district is Crown owned. Forty-two percent of the Crown land is Quetico Park. Patented lands amount to 1.44% with a further alienation of .56% designated as Indian Reserve. (Figure 11)

O:transportation

1. HISTORY

Atikokan became a divisional point with the completion of the Canadian National Rail line in 1900.

Roads within the community were few and poorly maintained and access to the town itself was by rail only.

The discovery of iron ore deposits followed by the establishment of the Steep Rock Iron Mine in 1940, contributed to the need for a road link both to the east and west. Atikokan was joined with Thunder Bay to the east with the completion of Highway 11 in August 1954. The distance covered was 208 kilometers. The further extension of Highway 11, west to Fort Frances, 144 kilometers, was not completed until June 1965.

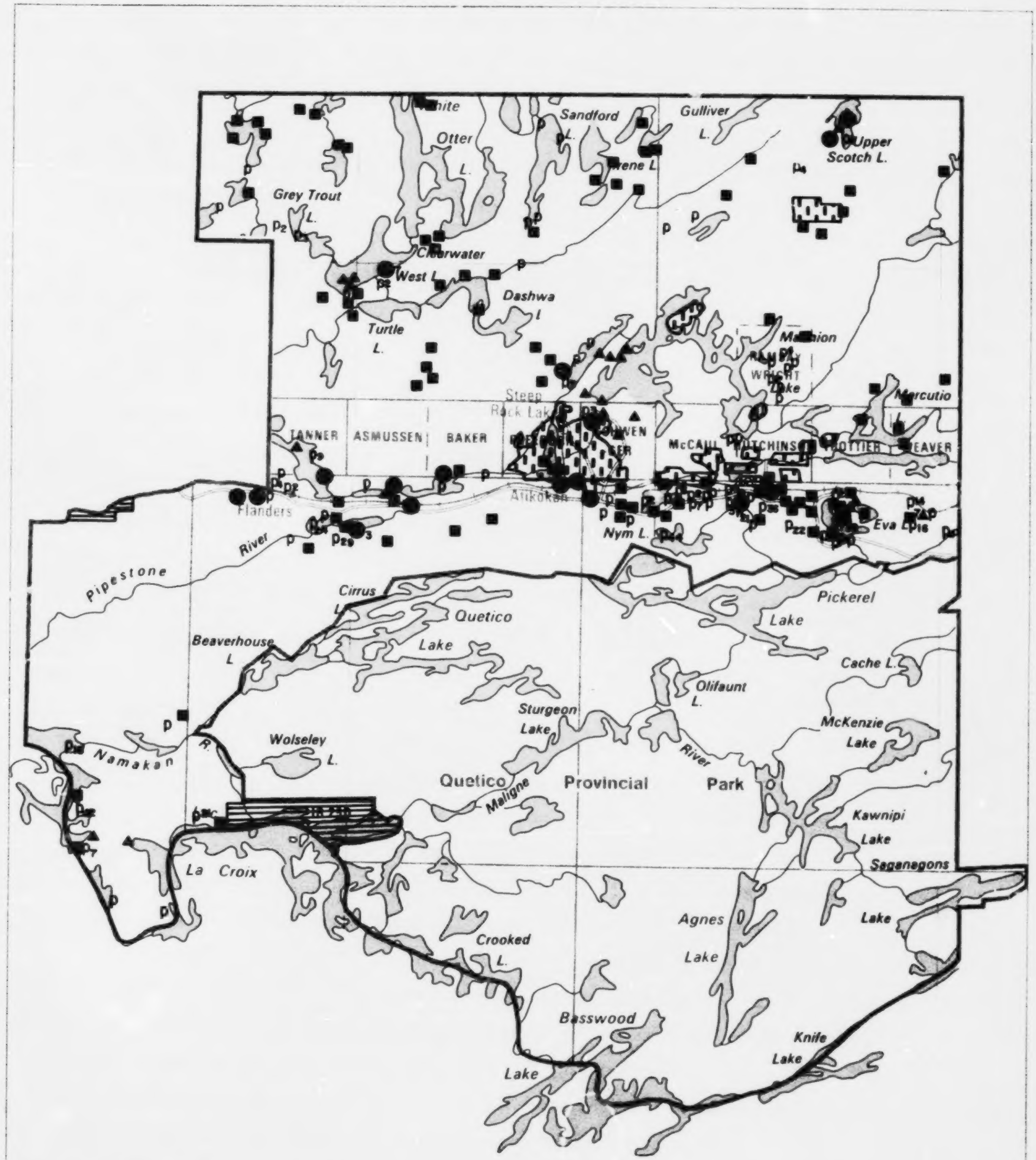
A municipal airport complemented Atikokan transportation facilities when it was completed in October 1975. The 1,067 meter air strip readily accommodates aircraft up to and including D.C. 3's. (Figure 12)

Land Tenure

Figure 11

LEGEND

- ☐ Crown Land
- ▨ Patent Land
- P7 Smaller Patent Land (Number indicates if more than one)
- ■ Land Use Permit
- ● Lease
- ▲ Licence of Occupation
- ☰ Indian Reserve


White
Otter L.
Sandford L.
Gulliver L.
Upper Scotch L.
Irene L.
Grey Trout L.
Clearwater
West L.
Dashwa L
Turtle L.
Mattawion
RAMSAY WRIGHT Lake
Steep Rock Lake
Marcutio
TANNER
ASMUSSEN
BAKER
BOWEN
McCAUL
HUTCHINSON
TROTTIER
BEAVER
Flanders
Atikokan
Nym L.
Eva L.
River
Pipestone
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Namakan
R.
Wolseley L.
River
Quetico Provincial Park
Maligne
Kawnipi Lake
Saganagons Lake
La Croix
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

2. SECONDARY HIGHWAYS

The three secondary highways within the Atikokan district are paved and extend northerly from Highway 11.

Highway #633 extends 4.8 kilometers north to Kawene, a former C.N.R. maintenance depot.

Highway #623 extends 3.2 kilometers north to a Domtar sawmill yard. Highway #622 extends from the town of Atikokan 8.0 kilometers to the Caland iron ore mine.

The junction of Highway 11 and 11B, which accesses Atikokan, is 3 kilometers from the town of Atikokan.

In 1978, a new highway, the Bending Lake Road, was started. With its completion in approximately 1990 there will be a link between Atikokan and Highway 17.

3. FOREST ACCESS ROADS

M.N.R. roads are classified according to the North Central Region road standards. In general, Class A roads are main haul roads built for continuous use for a period of 20 or more years. These roads are built to a sufficiently high standard that the M.T.C. could take them over if public demand warranted such action. Class B haul roads are built to a lesser standard with a utilization period of less than 20 years. Class C roads are built to a low standard for resource extraction access.

Most of the district's forest access roads are of the B and C classes. Two of the three Class B roads, Clearwater West and Premier Lake, cover much of the northern half of the planning area. The Flanders Road, penetrates into the southwest portion of the district. The seven Class C roads are arteries stemming from the above class B roads. Class B roads total 81 kilometers while Class C totals 106 kilometers.

There are no roads running south into Quetico Provincial Park. Each year the Ministry of Natural Resources constructs an average 10 kilometers of new roads while presently maintaining 179 kilometers of road. The many roads provide access for resource management, resource extraction, forest fire suppression and general public recreation use.

4. RAILWAY AND RAIL SERVICES

The Canadian National Railway has a single major trunk line of 128 kilometers passing east-west through the centre of the planning area. The line is parallel and north of Hwy. 11 and is used primarily for freight services. A single spur line (which formerly serviced the iron mines) extends north to the Atikokan Generating Station.

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5. BUS SERVICE

The Grey Goose Bus Line provides daily passenger service to Fort Frances and Thunder Bay.

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6. AIR SERVICE

There are several land and water aerodromes in the planning area. Atikokan's major air facility is the municipal airport. From here NorOntair maintains scheduled passenger flights to Fort Frances, Dryden, Kenora and Thunder Bay.

A single local airfield, east of Sapawe, provides some services for both business and tourist aircraft. Two licenced seaplane bases outside the Quetcio Provincial Park boundaries are located at Lac la Croix and Crystal Lake.

P:utilities

1. POWER UTILITIES

Hydro electric power was first introduced to the town of Atikokan in 1944, when Ontario Hydro constructed the first distribution station and lines on Steep Rock Lake. In 1957, this system was taken over by the Atikokan Hydro Electric Commission. Ontario Hydro still services the rural areas via the hydro transmission corridors that pass through the planning area.

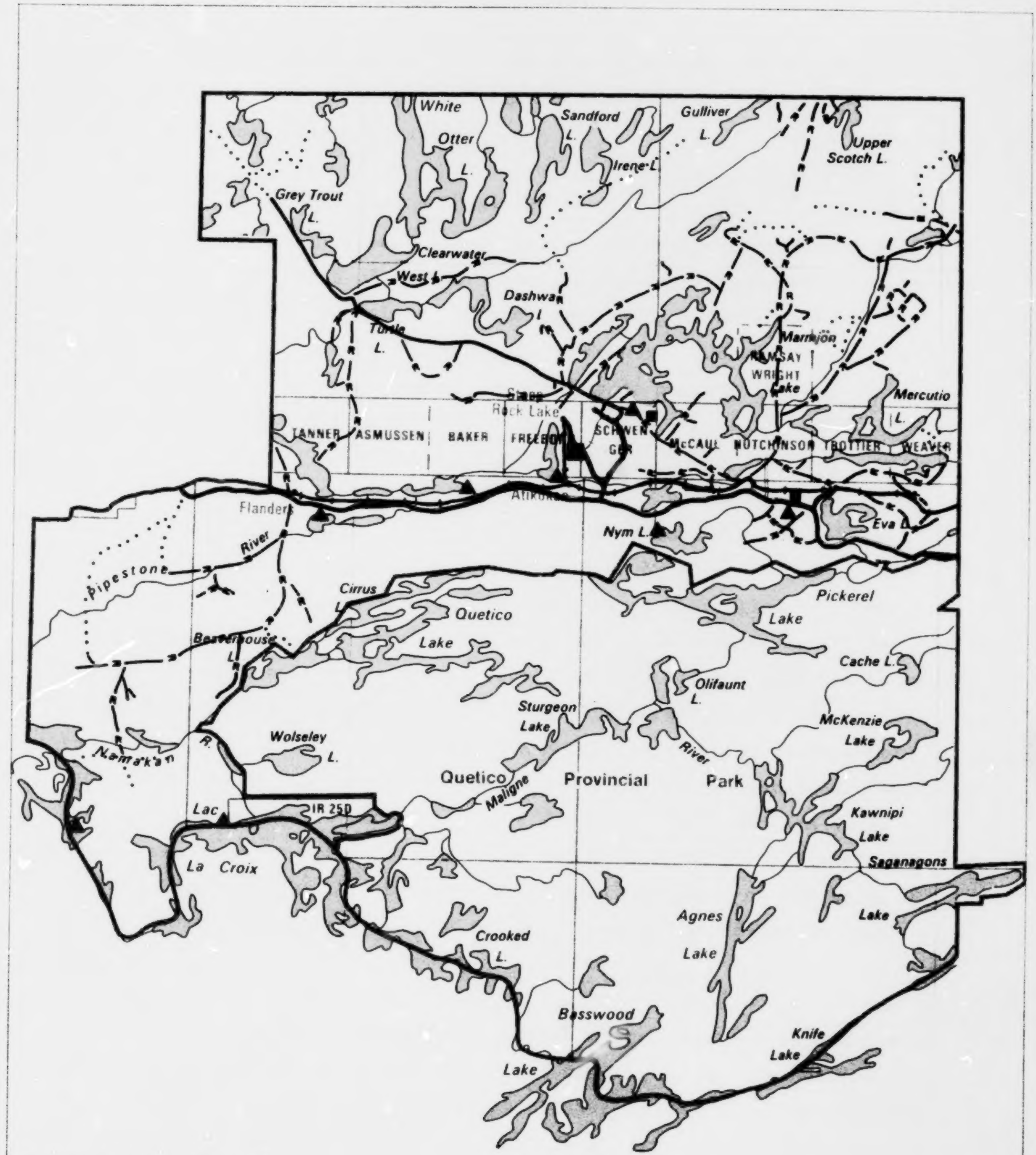
Two major hydro electrical transmission lines of 230 kilovolts and 115 kilovolts extend westerly across the district covering 413 kilometers. Construction of the Ontario Hydro generating plant, north of Atikokan,

Transportation Facilities

Figure 12

LEGEND

- — Highway
- -R- Industrial and Resources Road
- ··· Proposed Road
- ┼┼ Railway
- ■ Public Airport
- ▪ Private Airport
- ▲ Float Plane Base


White
Otter L.
Sandford L.
Gulliver L.
Upper Scotch L.
Irene L.
Grey Trout L.
Clearwater West L.
Dashwa L.
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
Nym L.
Eva L.
Pipestone River
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Namakan R.
Wolseley L.
Quetico Provincial Park
Maligne River
Lac La Croix
IR 25D
Kawnipi Lake
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

began in 1978. It is to supply additional electrical power for future demands in Ontario. Being constructed in stages, its completion date is scheduled for 1984. Considerable controversy has developed over the possibility that environmental damages to the land, plant communities and lake and river systems could result from the emissions of this plant. (Figures 13 & 14)

---

2. DAMS

The Atikokan District lies within 3 tertiary watersheds that eventually drain westward through Rainy Lake, Lake of the Woods, Lake Winnipeg and finally to Hudson Bay. (Figure 8)

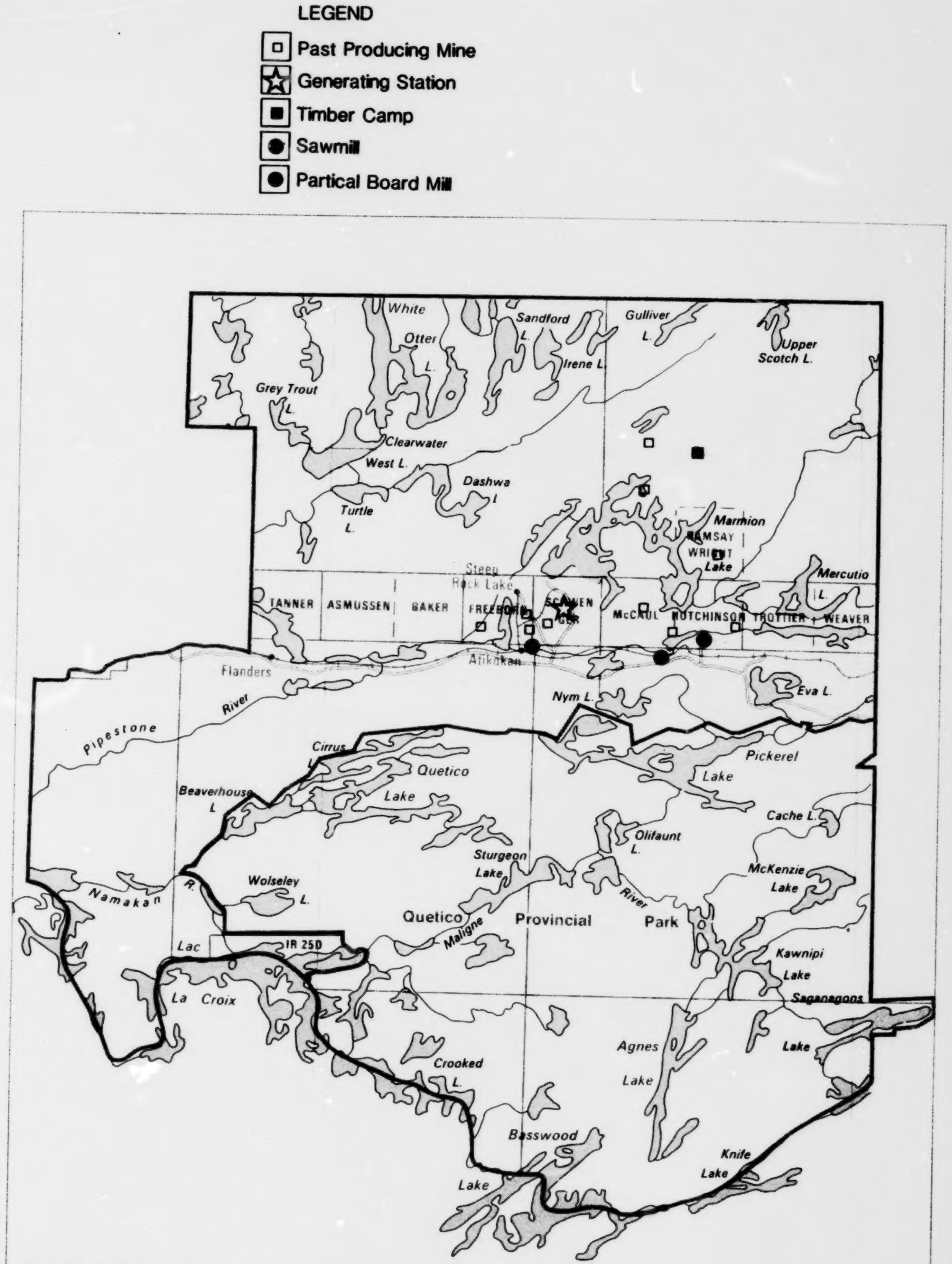
Over the years, man has made a number of changes that have affected the natural flow of water through the district. Dams were constructed to facilitate the movement of timber. Many of the major river and lake systems were dammed at numerous points. Since log driving is now obsolete, the wooden dams have fallen into disuse and disrepair. Today, while a few dams hold water levels at a point somewhat above natural levels, their effect is virtually negligible.

The Seine River system from the Lac des Mille Lacs through to Rainy Lake has been dammed for water level control, hydro production and as part of the Steep Rock Lake diversion and dewatering process. Water flowing out of Lac des Mille Lacs into the Seine River is controlled by a dam which regulates the lake level. The next dam is located at Raft Lake and is part of the Steep Rock Lake Diversion. Water levels in the Marmion Lake reservoir are regulated by this dam. Downstream again, the Seine has been dammed at two sites, Calm Lake and Crilly. These dams are old (late 1920's) and were built to provide power for Boise Cascade of Canada Ltd. (formerely Ontario-Minnesota Paper Company). The dams are still functional as water retainers and power producers, primarily for the town of Fort Frances. The Calm Lake dam has a limited effect on the water levels in Calm Lake, Banning Lake and to a much lesser degree on Perch Lake.

Water levels in Turtle Lake and to a lesser degree in Crowrock and Dashwa Lakes are controlled at present by an old logging dam at the outflow of Turtle Lake. The dam is currently functioning as a spillway maintaining Turtle Lake at an artifical but constant level, notwithstanding normal annual fluctuations. The dam is to be replaced and will retain the

Industrial Areas

Figure 13

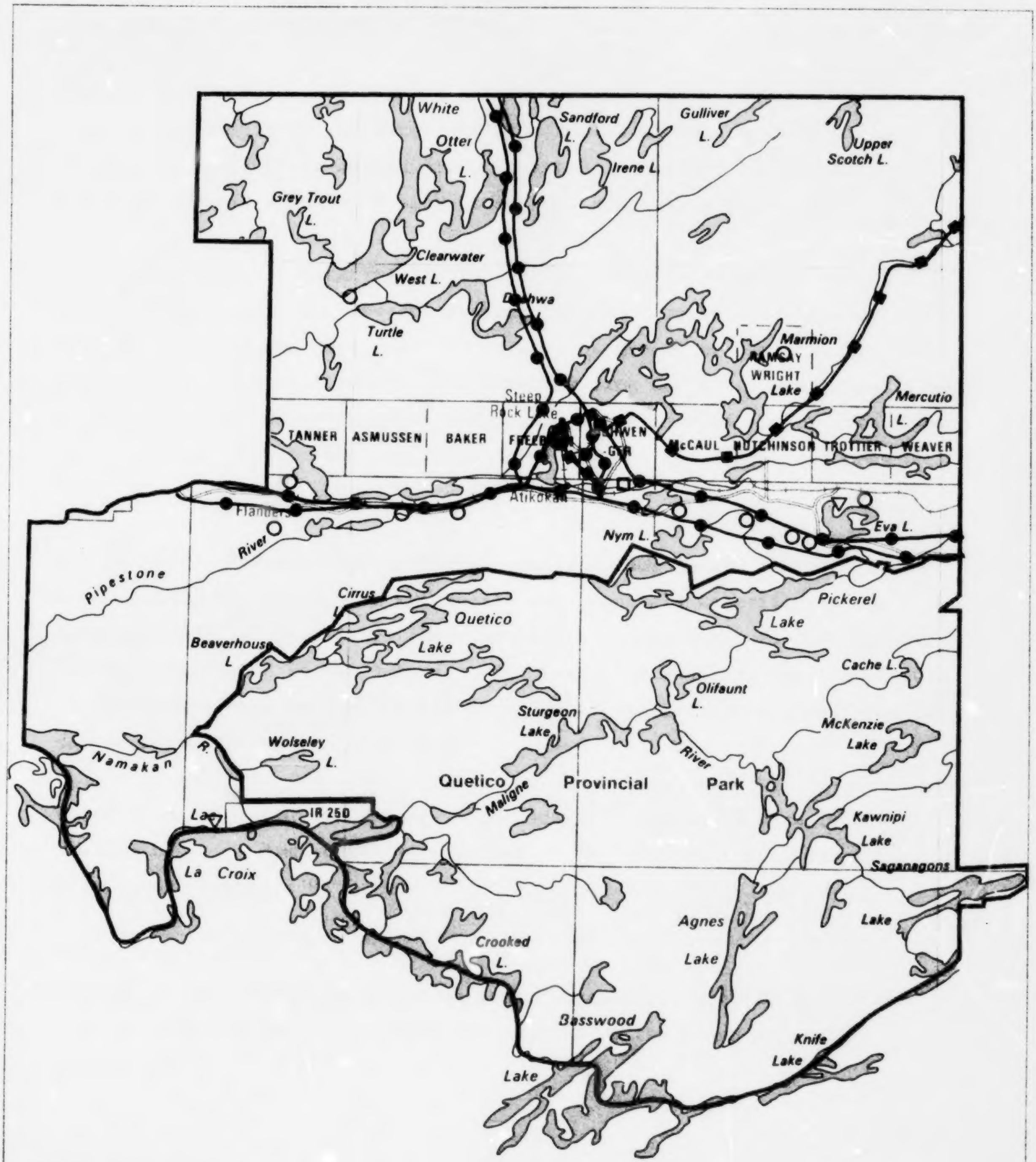

LEGEND
Past Producing Mine
Generating Station
Timber Camp
Sawmill
Partical Board Mill
White
Otter
L.
Sandford
L.
Irene L.
Gulliver
L.
Upper
Scotch L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Eva L.
Nym L.
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Namakan
R.
Wolseley
L.
River
Quetico
Provincial
Park
Maligne
Kawnipi
Lake
Lac
IR 25D
La Croix
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
SMC 16742
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

Utilities and Waste Disposal

LEGEND

- ■ Pipelines
- ● Powerlines (115 kV, 230 kV)
- ○ M.N.R. Garbage Dump
- □ Municipal Solid Waste Dump
- ▽ Private Garbage Dump


White
Otter L.
Sandford L.
Gulliver L.
Irene L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L.
Turtle L.
Marmion
RAMSAY
WRIGHT
Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
HUTCHINSON
McCAUL
TROTTIER
WEAVER
Atikokan
Flanders
River
Nym L.
Eva L.
Pipestone
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan R.
River
Quetico Provincial Park
Maligne
Lac La Croix
IR 25D
Kawnipi Lake
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

existing lake levels. At the moment, the dam serves also as a bridge on the Clearwater West Road. Once this section of the road is reconstructed as part of the Bending Lake Road project, the dam will not be used as a bridge. The new bridge will be located a short distance downstream from the existing structure.

Based on the water level created by the existing spillway dam, 45 cottage lots have been established on Turtle Lake.

When it was decided to dewater Steep Rock Lake to mine the iron ore body located beneath it in the late 1940's, a series of dams were built to divert the Seine River around Steep Rock Lake resulting in more dams. Today all the dams built by both Steep Rock and Caland are in use.

The Ontario Hydro Generating Station, presently under construction will effect Marmion Lake and several smaller lakes. Marmion will be completely divided in half; the north half being part of the Seine River system and the south half associated with the water cooling and circulation requirements of the station. Water from the south half of Marmion will flow into Moose Lake, through the station, out into Snow, Icy and Abie Lakes and then back into Marmion.

The Ministry of Natural Resources has built 2 dams in the District. One on Pickerel Lake in Quetico Provincial Park controls waterflow in the northeast part of the Park. This dam is slowly being phased out and will not be significant in the future. The Clearwater West dam controls levels in Clearwater West Lake and White Otter Lake. It is a wooden weir overflow dam affected by rainfall and runoff.

Water from the large watersheds in Quetico Park moves westward into Namakan Lake. A dam at the western end of the lake controls flow into Rainy Lake. (Figure 8)

---

3. GAS PIPELINES

A single 70 kilometer gas pipeline branch transports natural gas to the town of Atikokan from the north-east section of the planning area. (Figure 14)

4. WATER SUPPLY AND SEWAGE TREATMENT

The smaller outlying communities of the district are reliant upon wells and lakes for water and septic systems for sewage disposal.

The township of Atikokan presently relies on the Atikokan river for both its water supply and sewage discharge - a new sewage treatment plant was completed in 1980.

5. WASTE DISPOSAL

The Ministry of Natural Resources maintains 12 garbage dumps within the planning area. There is also one municipal and two private dumps. (Figure 14).

Q:existing degree of residential development

Figure 15 portrays the general degree of residential development in the District. In order to arrive at the degree of development all family residences, cottages, lodges or motel units were counted within a grid cell area of one square kilometer. Each grid cell was then classified as either very dense (16+ or more units) dense (8 - 15 units), moderate (4 - 7 units), sparse (1 - 3 units) or none.

Dense development corresponds to major urban development found along the transportation corridors.

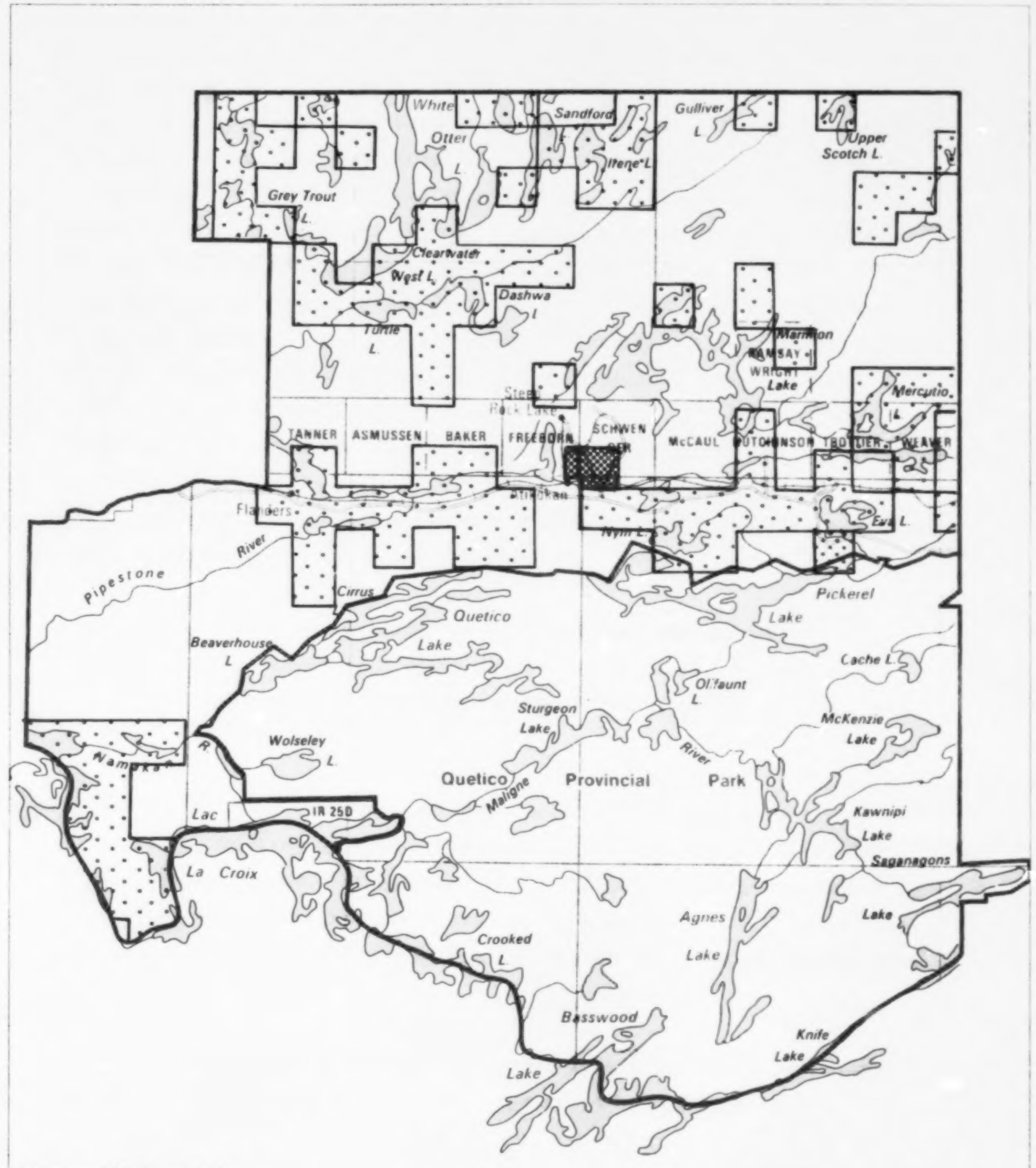
Development within the Atikokan district was determined using the standards given in the Ministry of Natural Resources Guidelines for Land Use Planning, (1979, page 42).

Degree of Residential Development

Figure 15

LEGEND

Class	Development Units /Km^2
▩ Very Dense	16⁺
▦ Dense	8-15
▨ Moderate	4-7
⬚ Sparse	1-3
☐ None	0


White
Otter
L.
Sandford
Gulliver
L.
Upper
Scotch L.
Irene L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Wolseley
L.
R.
Namakan
Quetico
Provincial
Park
Maligne
River
Kawnipi
Lake
Lac
IR 250
La Croix
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

A: mining activities

The major mining activity since 1944 in the Atikokan District has come from the production of iron in the Steep Rock Lake area near Atikokan. Production recently stopped with the closing of the Steep Rock and Caland Mines in 1979 and 1980 respectively. The two mines shipped a total of 137,800,000 tonnes of iron ore; this figure includes the 796,000 tonnes produced from iron bearing gravels by Canadian Charleston Limited from 1958 to 1965. Iron was also produced from the Atikokan Iron Mine; the mine operated between 1907 and 1911 and during this time 92,130 tonnes of ore was produced. Further exploration since that time indicates that reserves of 1,727,000 tons grading 53.7 percent iron are present.

There has also been minor amounts of gold produced in the district. Production figures, summarized in Table 4, indicate that 209,636 grams of gold has been won from the district with most of this production coming from the Sapawe Gold Mine.

Most of the current exploration activity has been concentrating on the re-examination of known gold occurrences and the search for new ones. This activity has stemmed from the current price of gold which has been in the $700 to $750 range.

The Sapawe Mine workings was partially dewatered in 1980 with a view to conducting a sampling program. The mine is now operated by Atiko Gold Mines Corporation Ltd. Prospecting at the Elizabeth Mine, Sunbeam, the Olcott occurrence, the Mayflower and in the Lumby Lake and Crooked Pine Lake areas have been encouraging and in several occurrences visible gold is present.

Several small ultramafic plutons have been investigated for platinum-palladium and one near Plateau Lake appears to have some promise.

TABLE 4 GOLD PRODUCTION IN THE ATIKOKAN DISTRICT

Mine	Years	Ounces Gold	Ounces Silver	Tons of Ore Milled	Average Grade Gold g/t	Average Grade Silver g/t
Elizabeth	1913	20	--	50	0.40	--
J. J. Walsh	1934	21	13	350	0.06	0.04
Atiko (Sapawe)	1964-66	4,547	1,315	33,013	0.14	0.04
Sunbeam	1904	272	--	650	0.42	--
Sawbill	1897-99 1940-41	1,009	72	5,368	0.19	0.01
Harold Lake	1895-96	647	--	1,131	0.57	--
White Lily	1933	2	4	65	0.03	0.06
Hammond Reef	1897	222	--	977	0.22	--
Totals		6,740	1,404	41,604	0.16	0.03

1. MINERAL POTENTIAL AND EXPLORATION

The traditional system of describing an area's mineral potential tends to designate metavolcanic terrains as moderate to high and the intervening granitic areas as having a low or, in many instances, unknown potential. Granitic terrains should not be ruled out as they have certain potential for uranium and porphyry type deposits such as are found in Precambrian rocks . Although porphyry type deposits have not yet been found in Precambrian rocks, there is the possibility they exist. Metals such as copper, molybdenum and even gold can be won from porphry deposits which are generally large tonnage low grade. (Figure 16)

The preceeding would suggest that there should be a degree of flexibility when establishing land use plans in that areas with some known mineralization may currently have a low potential for ore but these deposits may become ore in the future. This may be caused by changes in markets, metal prices, transportation and uses.

2. RESOURCE AND USE ANALYSIS

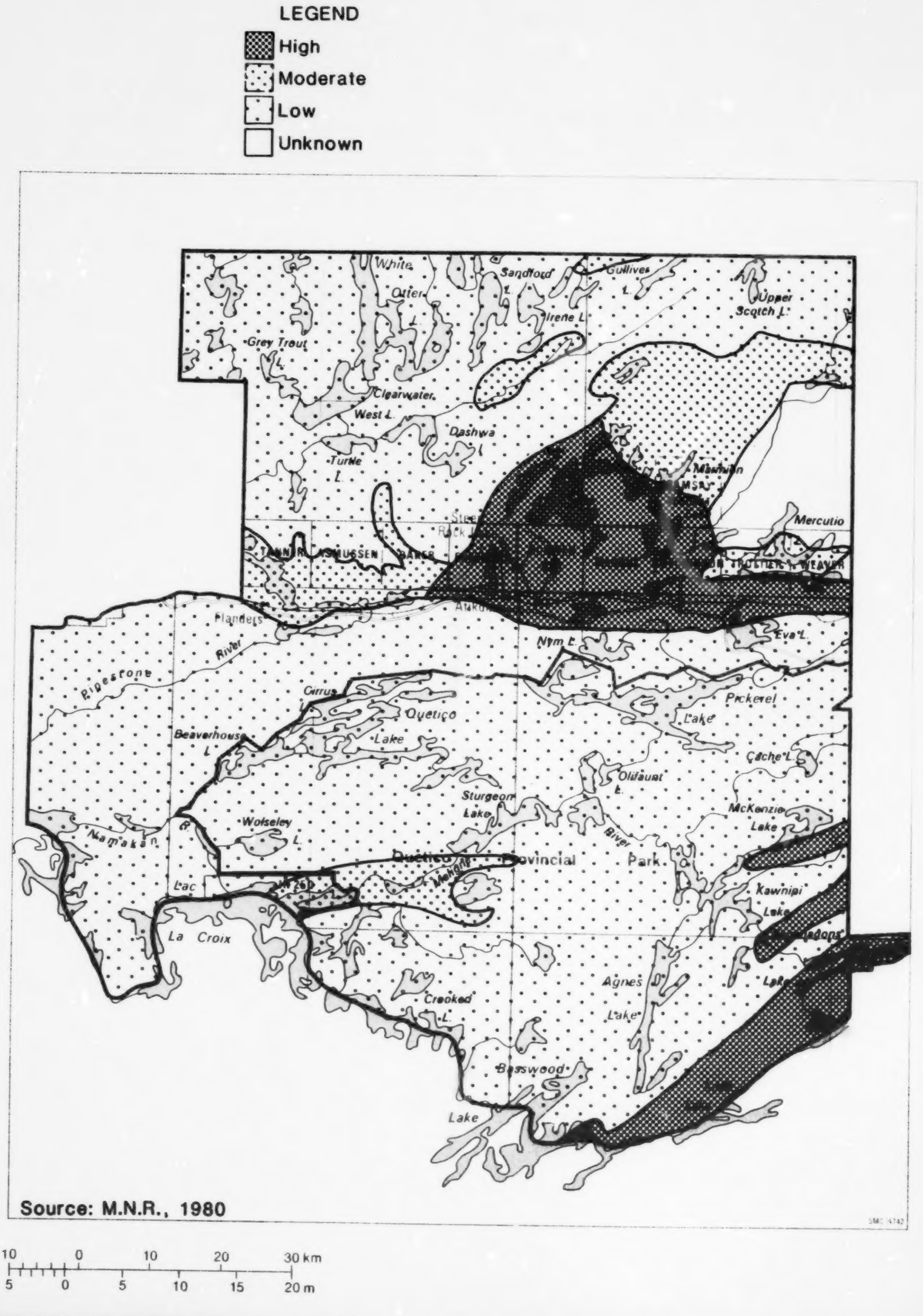
It should also be realized that areas which have a moderate to high potential for mineral deposits may not have the same potential for ore. The main reason for this would be remoteness from markets giving high costs to transportation. However, flexibility should be retained as remote mineral deposits could, in the future, become ore for reasons already cited, or for the strategic value of certain commodities. Lithium and tantalum are examples.

Figure 16 illustrates the mineral potential of the Atikokan District as determined by the provincial mineral potential map. The metavolcanic rocks range from moderate to high potential as they are the host for many of the gold deposits which have become popular exploration targets since the increase in the price of gold. Several known gold occurrences are also in the granitic rocks adjacent to the metavolcanic rocks. As all of the granitic rocks have not yet been closely examined they should perhaps rate a higher mineral potential than is illustrated.

The foregoing illustrates that Atikokan District has promising mineral potential for such a small area; this is especially so when one considers almost half the area is a park which precludes exploration. Part of a metavolcanic belt in the southeast area of the park has a high mineral potential with occurrences of iron, gold and copper. There are also

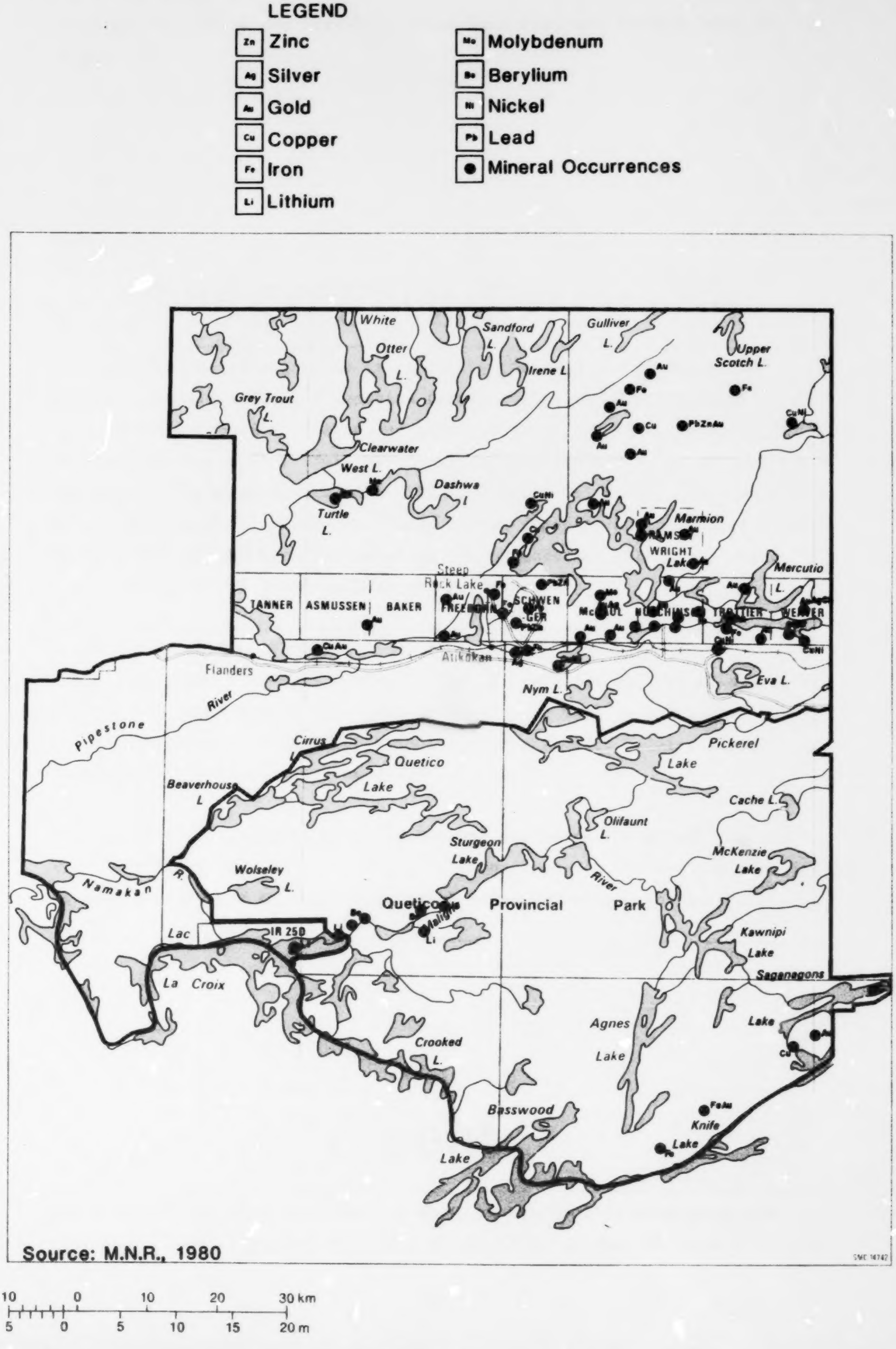
Mineral Potential

Figure 16


LEGEND
High
Moderate
Low
Unknown
White
Otter L.
Sandford L.
Gullives L.
Upper Scotch L.
Irene L.
Grey Trout L.
Clearwater West L.
Dashwa L.
Turtle L.
Marmion
Mercutio
Steep Rock L.
TANNER
RASMUSSEN
BAKER
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Oldaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan
R.
River
Quetico Provincial Park
Malign R.
Kawnipi Lake
Lac La Croix
Agnes Lake
Crooked L.
Basswood Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

Mineral Occurrences **Figure 17**



Source: M.N.R., 1980

LEGEND
Zn Zinc
Ag Silver
Au Gold
Cu Copper
Fe Iron
Li Lithium
Mo Molybdenum
Be Berylium
Ni Nickel
Pb Lead
● Mineral Occurrences
White
Otter
L.
Sandford
L.
Gulliver
L.
Irene L.
Upper
Scotch L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Mercutio
L.
Steep
Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Namakan
R.
Wolseley
L.
River
Quetico
Provincial
Park
Maligne
Kawnipi
Lake
Lac
IR 25D
La Croix
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
Au
Fe
Cu
PbZnAu
CuNi
Mo
Be
Li
FeAu
10
0
10
20
30 km
5
0
5
10
15
20 m

showings of lithium and beryllium associated with the Poohbah Lake Complex. (Figure 17)

B:aggregate potential

The major source of aggregate is generally the sand and gravel in the moraines and glaciofluvial deposits formed during the Pleistocence ice age. The distribution of sand and gravel pits in the Atikokan District is shown on Figure 18 . This map shows broadly defined areas of high and moderate aggregate potential. In high potential areas, the chance of the discovery of economic sand and gravel deposits has been interpreted as good. In areas which are rated as having moderate potential, there is a fair chance of locating economic deposits.

1. RESOURCE AND USE ANALYSIS

Eagle-Finlayson moraine is currently one of the major sources of aggregate. Much of the aggregate in this moraine is of poor quality because of unfavourable size and texture characteristics; however locally valuable deposits with potential for expansion do exist.

Gravel pits are also present along Highway #11 where the ground moraine is of sufficient thickness. In general, the loess in the aeolian deposits is too fine-grained to be of commercial value for most purposes.

C:peat

Recent organics, that is, peat and muck, occurs locally throughout the district. Generally, peat consists of partially decomposed organic debris which has accumulated under deoxygenated and saturated conditions.

Current policies of the Ministry of Natural Resources indicate that studies of peat potential will take place over the next few years. These studies will include inventories and marketability of peat as an energy source to increase Ontario's self sufficiency in energy. The present target is for Ontario to be 35 percent energy sufficient by 1995 and much of this increase is to be attained by the use of peat.

1. RESOURCE AND USE ANALYSIS

The Atikokan District currently has one ongoing peat extraction operation. It, like two similar operations which ceased production over 10 years ago, produces horticultural grade peat for local use in gardens and landscaping.

Atikokan does not have large peat lands so its potential for producing significant quantities of peat for energy generation is low. Local deposits of low quality peat will likely meet the horticultural demands of the local area in the future.

D:agriculture

The Ministry of Natural Resources will ensure that classes 1, 2, 3, and 4 soils, as defined in the Canada Land Inventory, Soil Capability for Agriculture, will be identified as agricultural lands and recognized as foodlands available for future food production in accordance with an agreed plan with the Ontario Ministry of Agriculture and Food.

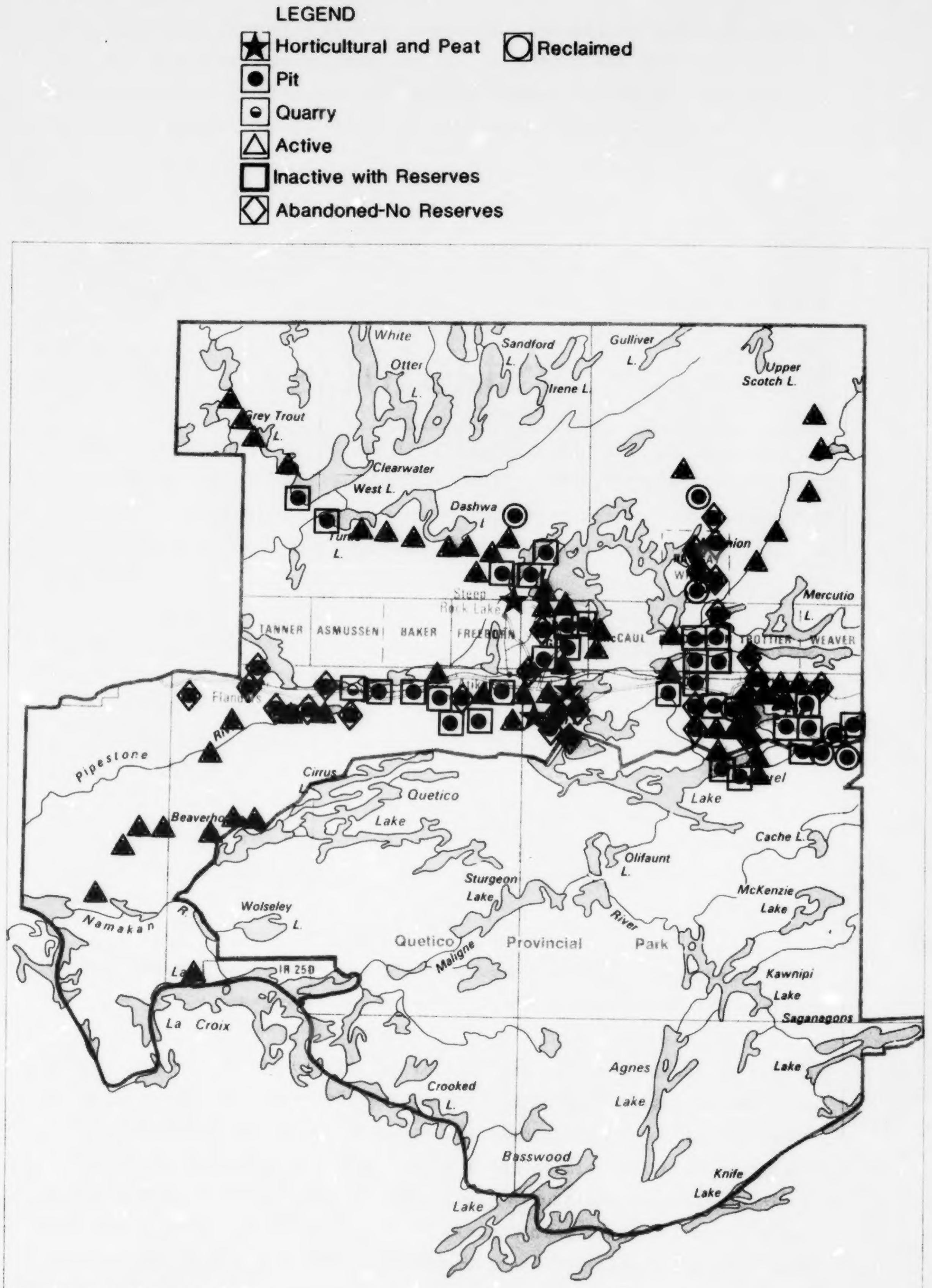
1. RESOURCES AND USE ANALYSIS

Due to topography and soil depth constraints, the above noted land classifications are non-existent in the district.

Generally the landbase of the area is classified as moderately broken uplands with variable soil depths. Soil composition is sand and other

Aggregate Operations and Peat Areas

Figure 18


LEGEND
★ Horticultural and Peat
○ Reclaimed
● Pit
◦ Quarry
△ Active
☐ Inactive with Reserves
◇ Abandoned-No Reserves
White
Otter
L.
Sandford
L.
Gulliver
L.
Irene L.
Upper
Scotch L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
McCAUL
TROTTIER
WEAVER
Flanders
River
Pipestone
Cirrus
L.
Quetico
Lake
Beaverhouse
Olifaunt
L.
Cache L.
Sturgeon
Lake
McKenzie
Lake
Wolseley
L.
Namakan
R.
River
Quetico
Provincial
Park
Maligne
IR 25D
La Croix
Kawnipi
Lake
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
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20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

materials with extensive bedrock exposure. Capability for agriculture is low. Potential for agriculture is low. There are no extensive agricultural activities presently being carried out in the Atikokan District. Small crop gardening is maintained by local residents.

E: forestry

1. FOREST RESOURCE BASE *(Crown land only based on 1965 FRI Inventory Data)*

The Atikokan District contains approximately 1,927,966 acres (180,553 hectares) of productive forest area. Productive forest land is normally subdivided into two further categories, production forest and protection forest.

Of the total productive forest area only that portion in the production forest category is considered as the actual forest resource base, capable of supporting forest operations. Protection forest is not deemed to be operable for sustained harvest operations because of shallow soils, extremely broken terrain, etc..

Table 5 indicates the productive, production and protection acreage of Crown land by management unit and/or working circle for the Atikokan District.

Table 6 represents an area summary of production forest by working group for each of the management units and/or working circles for the district.

Table 7 represents the production forest area of the district by working group for those areas presently committed to forest operations and is the area on which allowable cut data has been calculated. It does not include Hunters Island and Jean Lake working circles or the area presently within the White Otter Lake Park Reserve. Reductions for additional park land, road construction, gravel pits, mining claims, lake cottage development, fish and wildlife reserves, sensitive sites, have not been made.

TABLE 5 CROWN PRODUCTIVE, PRODUCTION & PROTECTION FOREST BY MANAGEMENT UNIT/WORKING CIRCLE - ATIKOKAN DISTRICT (Acres)

Management (unit) area	1. Production Forest Site Classes I, II, III	2. Protection Forest Site Classes IV	3. Productive Forest All Site Classes
Flanders CMU			
Pipestone working circle	340,578	21,090	361,668
Quetico Provincial Park			
(Formerly Quetico Crown Management Unit)			
Hunters Island W.C.	381,748	13,850	395,598
Jean Lake W.C.	180,404	5,180	185,584
Jim Mathieu W.C.1	230,998	4,514	235,512
Boise			
Seine Concession	199,689	9,141	208,830
Sapawe CMU			
J. Mathieu W.C.2	247,940	5,448	253,388
White Otter W.C.	113,990	11,118	125,108
Former Great Lakes	105,318	612	105,930
491913/492913	56,108	240	56,348
District Total	1,856,773	71,193	1,927,966
Hectares	751,729	28,823	780,553

TABLE 6 AREA SUMMARY OF CROWN PRODUCTION FOREST BY WORKING GROUP (Acres) - ATIKOKAN DISTRICT

Management (unit) area	Pw	Pr	Pj	Sp	Bf	Oc	Po	Bw	Oh	Total All Working Groups
Flanders										
Pipestone W.C.	6,850	1,062	99,026	55,962	2,820	1,618	140,042	32,758	440	340,578
Quetico Provincial Park										
(formerly Quetico Crown Mgmt. Unit)										
Hunters Island W.C.	14,642	26,352	114,382	97,406	13,126	5,824	76,640	32,666	710	381,748
Jean Lake W.C.	5,419	1,884	39,966	5,532	5,532	2,608	72,102	25,260	486	180,404
Jim Mathieu W.C.1	6,682	4,748	77,352	74,960	10,096	2,158	34,796	19,442	764	230,998
Boise										
Seine Concession	1,050	3,301	63,974	77,407	7,744	2,062	15,701	28,196	254	199,689
Sapawe CMU										
J. Mathieu W.C.2	4,978	606	61,990	57,128	13,322	--	89,648	20,242	26	247,940
White Otter W.C.	2,184	690	47,656	17,506	3,866	98	9,822	32,168	--	113,990
Former Great Lakes	2,636	--	14,456	42,176	11,534	932	11,780	21,804	--	105,318
491913/492913	740	--	32,954	8,440	62	--	9,632	4,280	--	56,108
District Total	45,181	38,643	551,756	458,141	68,102	15,300	457,531	216,816	2,680	1,856,773
Hectares										751,730

TABLE 7 CROWN LAND AREA PRESENTLY COMMITTED TO FOREST OPERATIONS WITHIN THE ATIKOKAN DISTRICT
(Production Forest Area which forms part of Calculated Annual Allowable Cut)

Management (unit) area	Pw	Pr	Pj	Sp	Bf	Oc	Po	Bw	Oh	Total All Working Groups
Flanders CMU										
Pipestone W.C.	6,850	1,062	99,026	55,962	2,820	1,618	140,042	32,758	440	340,578
Boise										
Seine Concession	1,050	3,301	63,974	77,407	7,744	2,062	15,701	28,196	254	199,689
Sapawe CMU										
J. Mathieu W.C.2 White Otter W.C. Former Great Lakes 491913/492913	8,522	--	146,107	188,287	25,918	167	114,839	63,981	--	477,821
District Total	16,422	4,363	309,107	251,656	36,482	3,847	270,582	124,935	694	1,018,088
Hectares										412,181

2. FOREST REGIONS

Refer to Vegetation, page 12.

---

3. TIMBER CAPABILITY

a. Ontario Land Inventory

An inventory system known as the Ontario Land Inventory was developed early in the 1970's to supplement the previous Forest Resources Inventory. The Atikokan District was inventoried during this period. (Figure 19)

This system would enable productivity comparisons between the various site regions (as defined by Hills) within the province. The Atikokan District lies almost entirely within site region 4W. (Figure 20)

The following is a general outline of the information on timber capability derived from O.L.I. data. The data relates to the present production forest land base, the S.L.U.P. target (revised 82:01:13) and the Forest Production Policy target for the Atikokan District.

Several of the seven O.L.I. classes have been subjectively grouped to indicate high, moderate and low capability classes as follows:

High	-	4.90 cubic metres per hectare per year
Moderate	-	2.10 cubic metres per hectare per year
Low	-	0.38 cubic metres per hectare per year

The weighted average (weighting based on amount of land area in each class) volumes per hectare per year is 1.69 cu. m/ha/yr gross total volume.

Reducing the gross total volume to net merchantable volume (reduction for tops, stumps and cull) was effected by reducing the gross total by 30%. *ie. 1.69 x (1.0 - 0.3) = 1.18 cubic metres per hectare per year.*

The total land area presently committed to the production of wood fibre within the Atikokan District is 1,018,088 acres or 412,181 hectares. (Table 7)

Applying the 1.18 cubic metres per hectare per year to the presently committed land base of 412,181 hectares, the estimated total annual yield of wood fibre would be:

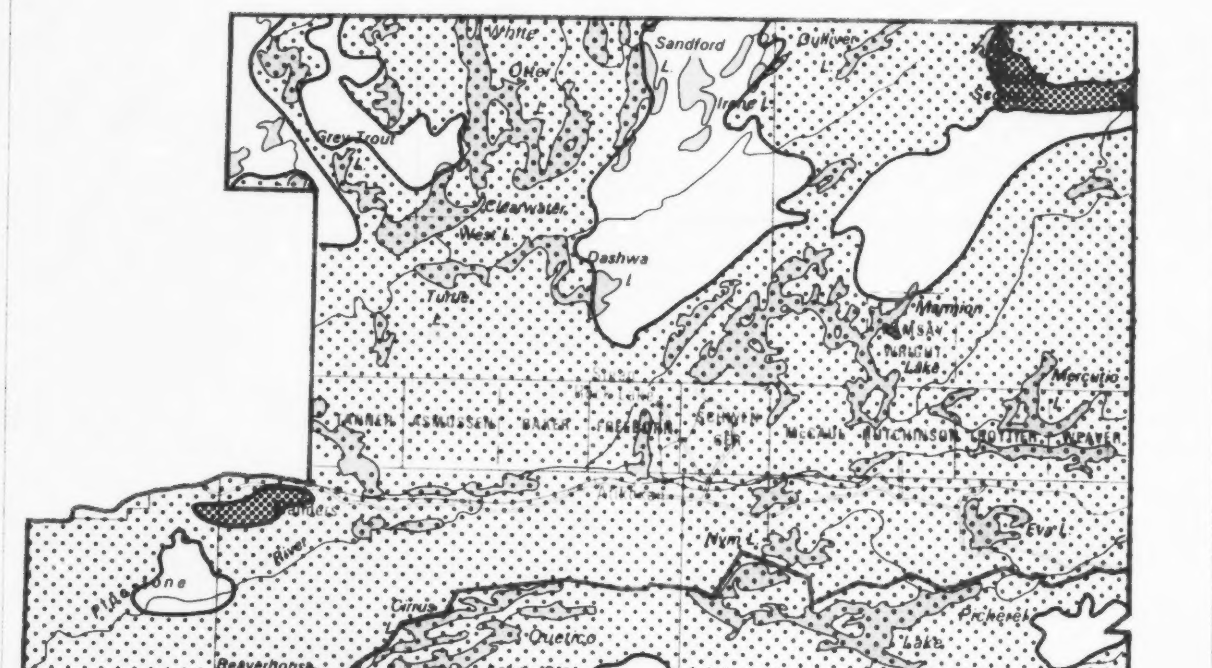
1.18 x 412,181 = 486,373 net merchantable cubic metres per year
(171,761 cunits per year)

Timber Capability

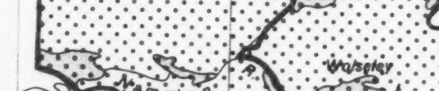
Figure 19

LEGEND

Productivity	Class	Range cu. ft./ac/yr	Average cu. ft./ac/yr
▩ High	1,2,3	51-90	70
░ Moderate	4,5	11-50	30
☐ Low	6,7	0-11	5.5

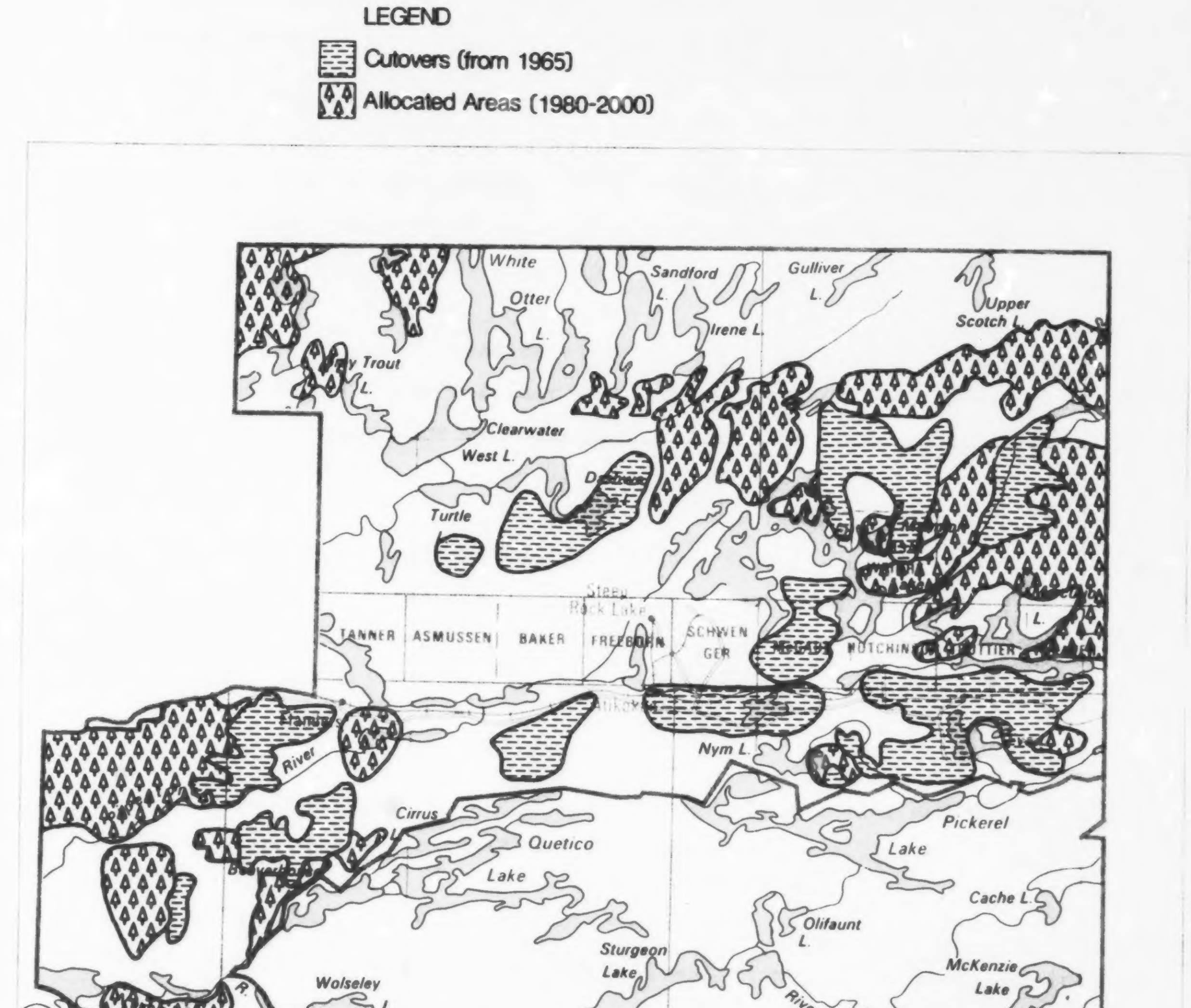

White
Otter
L.
Sandford
L.
Gulliver
L.
Irene L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L.
Turtle
L.
Marmion
Lake
Mercutio
L.
Eva L.
Nym L.
Pickerel
Lake
Cache L.
Pipestone
River
Citrus
Quetico
Lake
Beaverhouse
L.
Sturgeon
Lake
Ottawa
L.
Wolseley
L.
Namakan
R.
Quetico
Provincial
Park
Maligne
River
McKenzie
Lake
Kawnipi
Lake
Saganagons
Lake
Lac
La Croix
IR 25D
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake

Source: O.L.I., 1976


10
0
10
20
30 km
5
0
5
10
15
20 m

Timber Operations

Figure 20


LEGEND
▤ Cutovers (from 1965)
▨ Allocated Areas (1980-2000)
White
Otter
L.
Sandford
L.
Irene L.
Gulliver
L.
Upper
Scotch L.
Trout
L.
Clearwater
West L.
Turtle
Steep
Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
GER
HUTCHINSON
L.
River
Nym L.
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Wolseley
L.
R.
River
Quetico
Provincial
Park
Maligne
Lac
IR 250
Kawnipi
Lake
Saganagons
La Croix
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

Applying the 1.18 cu metres per hectare per year to the total production forest area of the district, 1,856,773 acres or 751,730 hectares (includes production forest land presently not committed to fibre production, ie. wilderness parkland) the potential estimated total annual yield of wood fibre would be: 1.18 x 751,730 = 887,041 net merchantable cubic metres per year (313,256 cunits per year)

b. S.L.U.P. Targets

The Atikokan District target as assigned January 13, 1982 (based on present commitment to existing industry) is a total of 603,000 m^3 net merchantable volume annually (362,000 m^3 of conifer and 241,000 m^3 of hardwood). This approximates 212,947 cunits annually.

Comparing this figure to that developed using the O.L.I. figures earlier, there would appear to be a rather significant shortage when compared to the volume figures derived from the present land base committed to wood fibre production. *ie.* $\frac{486.374 \text{ cu. m/yr.}}{603,000 \text{ cu. m/yr.}}$ = *80.6% of present S.L.U.P. target*

The S.L.U.P. figure could be considered even further out of line if we are to consider that the actual production forest land base should be further reduced because of losses to such things as lake shore reserves, gravel pits, sensitive sites, fish and wildlife reserves, mining, and cottaging.

Only with the total production forest area of the district and making reductions for the above could we meet the presently assigned S.L.U.P. targets.

c. Forest Production Policy Target

The production Policy Target for the Atikokan District is 180,000 cunits annually (509,702 cu. metres).

In order to meet the assigned target on a sustained yield basis and assuming the O.L.I. average productivity of 1.18 cu. m/ha/yr. is correct, it would be necessary to increase the production forest acres presently committed to the production of wood fiber, or alternately improve the level of forest management to increase the productivity per hectare, thereby enabling the same volume of timber from a smaller land base.

ie. $\frac{486.374 \text{ cu. m/yr.}}{509,702 \text{ cu. m/yr.}}$ = *95.4% of existing forest production policy target*

d. Readjustment of Targets

A downward adjustment of the S.L.U.P. targets will have to be made to bring it more in line with the Forest Production Policy target.

4. FOREST OPERATIONS

a. History

A brief history of the early lumbering industry within the district is on page 18.

b. Present Forest Use

There are presently four milling facilities for forest products within the district. The district also supplies substantial quantities of material (mainly conifer) to mills outside the district. A brief outline of wood flow and milling facilities follows.

(i) Atikokan Forest Products Sawmill. Located at Sapawe, 20 km east of Atikokan, is a subsidiary of Buchanan Brothers (Ont.) Limited purchased from Domtar Inc. in March of 1981.

The operation employs approximately 118 people in the mill and 50 people in bush operations. In addition the mill has third party contracts for the supply of wood which increases the number of persons who derive employment from the mill.

The mill has an annual average lumber production of approximately 40,000 mbm with a production of approximately 445.36 mbd tonnes of chips.

Wood requirements for the mill average 226.53 net merchantable cubic metres annually.

The company has been unable to avail itself of a long term supply of sawlog material. The present mill requirement exceeds the supply committed to Atikokan Forest Products Inc. from the district. The Ministry is endeavouring to aid the company by issuing directives to surrounding companies for them to supply Atikokan Forest Products Inc. with additional volumes of wood at a mutually suitable price. A long term solution to the supply problem has not yet been found.

(ii) Pluswood Manufacturing Limited - Atikokan. The Pluswood particle board facility is located in Atikokan. The operation employs approximately 135 people in the mill and another 19 in bush operations. As well wood is purchased from several local contractors thereby increasing the number actually employed in bush operations.

Production in 1979 totalled 79,696 cubic metres of particle board. The company has recently undergone an expansion.

Total mill requirements when in full production are expected to be approximately 200,000 cubic metres annually.

(iii) Foothills Timber Limited. This small mill located 25 kilometers east of Atikokan employs approximately 20 people in its bush and mill operation.

Annual production has tended to fluctuate in the short period of time it has been operating. This is due mostly to market fluctuations in the price of lumber. A total of 1600 mbm of dimension lumber was produced in 1979.

The mill utilizes mainly large diameter overmature white pine from the north end of the district. It too, has no long term supply of material. Life expectancy of the mill is approximately nine years.

c. Other Forest Operations

The majority of the pulpwood cut within the District from the Flanders Crown Management Unit and the Seine Concession is trucked to the Boise Kraft mill in Fort Frances. Most of this wood is cut by contractors holding contracts with Boise Cascade of Canada Limited. Many of these operators hire cutters from the Atikokan area.

Chips produced as a by-product at the Atikokan Forest Products mill in Sapawe are also utilized by Boise in Fort Frances.

Small amounts of pulpwood from the Flanders Crown Management Unit occasionally find their way to Great Lakes Pulp and Paper Company, in Thunder Bay, where market conditions off set the cost of the extra hauling distance.

Small quantities of railway ties are also produced by two contractors in the Flanders Crown Management Unit.

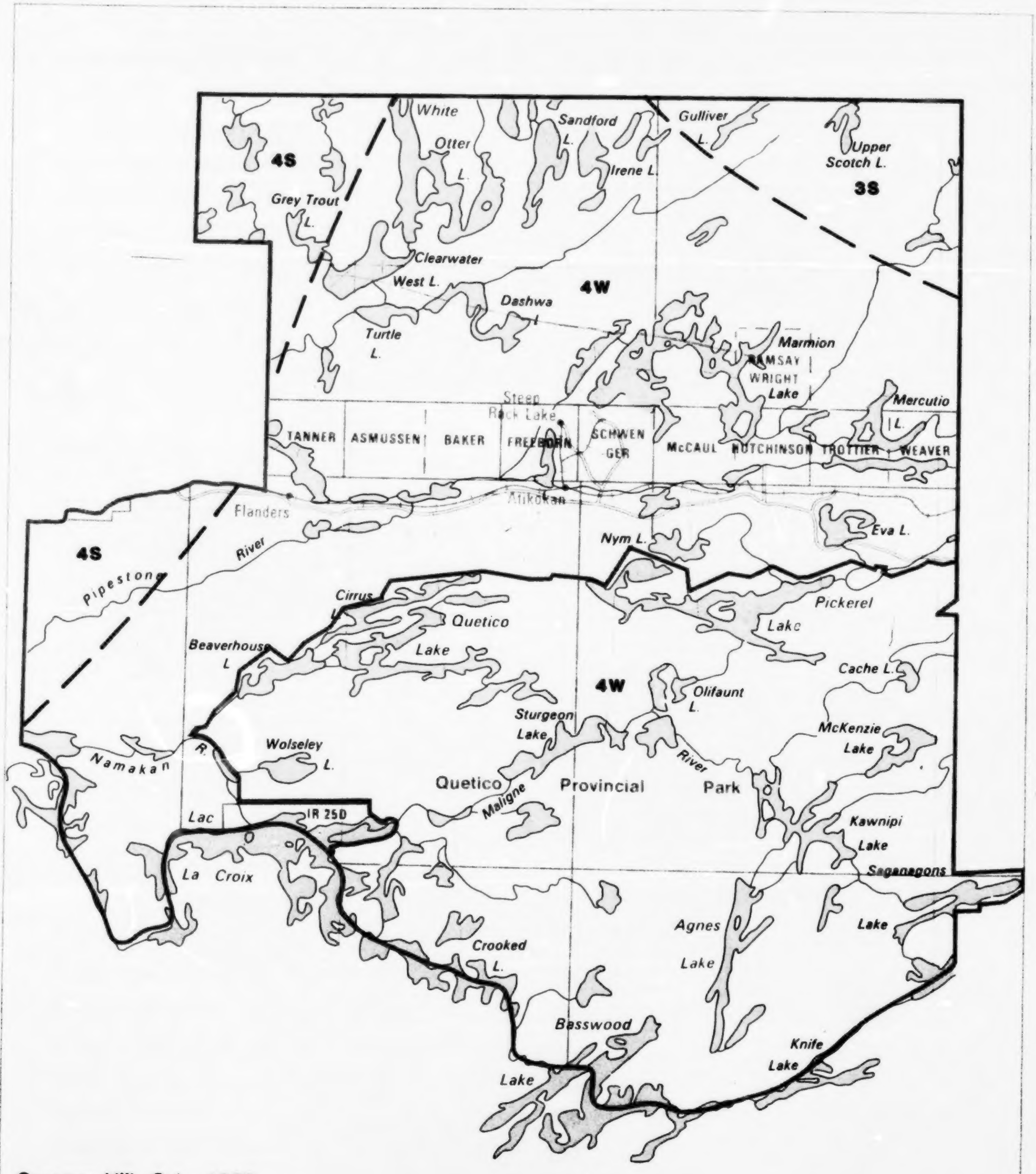
The Inwood Forest Products mill in Upsala is also partially dependent on a supply of white pine from the Sapawe Crown Management Unit. Figure 21 shows past, present and future timber operations.

---

5. REGENERATION

The Ministry of Natural Resources through its Forest Management Plan is charged with the responsibility of regenerating the cutover forest land within the district.

Forest Site Regions Figure 21


4S
White
Otter
L.
Sandford
L.
Irene L.
Gulliver
L.
Upper
Scotch L.
3S
Grey Trout
L.
Clearwater
West L.
4W
Dashwa
L.
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Mercutio
L.
Steep
Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Flanders
Atikokan
Eva L.
Nym L.
4S
River
Pipestone
Cirrus
Quetico
Lake
Pickerel
Lake
Beaverhouse
L
Cache L.
4W
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Wolseley
L.
Namakan
R.
Quetico
Maligne
Provincial
River
Park
Lac
IR 25D
La Croix
Kawnipi
Lake
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
SMC 14742
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: Hill, G.A., 1959

That portion of the Atikokan District, within the Boise Seine Concession, will shortly be covered under a Forest Management Agreement. Under this agreement Boise will be responsible for regenerating the cutovers within the agreement area.

Consequently forest regeneration operations conducted by the Ministry will generally be limited to the Flanders and Sapawe Crown Management Units.

A three year average of regeneration operations within the Atikokan District is as follows:

Regeneration	Acres	Hectares
Planting Nursery Stock	1,995	808
Planting Container Stock	103	42
Seeding	3,473	1,407
Scarification	241	98
Strip Cutting	33	13
Seed Trees	67	27
Total	5,912	2,395
Tending	1,683	683
Site Preparation	2,107	853

The required level of silvicultural work to maintain the present District Production Policy target of 180M cunits (as taken from implementation schedule for 1982/83) is as follows:

	Acres	Hectares
Harvest cut	11,900	4,820
Natural no cost regeneration	3,570	1,446
Not treatable	2,110	855
Requires treatment	6,220	2,519
Regeneration		
Planting nursery stock	2,500	1,013
Planting container stock	500	203
Direct seeding	2,200	891
S.I.P. and seeding	400	162
Scarification	300	122
Strip cutting	200	81
Seed tree cutting	120	49
Total Regenerating	6,220	2,519

Tending	1,800	720
Site Preparation	3,700	1,490

It should be noted that the differences from the three years average of Silvicultural Operations and that proposed are due mainly to a slight undercut, where fewer acres were cutover and therefore fewer acres were treated.

6. FOREST FIRES, INSECTS AND DISEASE

There have been no major impacts on the forest resource base due to the effects of forest fires, insects or disease.

Of the three, insects are probably the most destructive within the district. The spruce budworm and the pine shoot borer cause the most damage of all insects.

Concentrations of spruce budworm are most prominent in a couple areas of Quetico Provincial Park and one area in the northeast portion of our district, adjacent to Bennett Township.

The pine shoot borer can be found in generally all the regenerating jack pine cutovers.

Spraying has not been required to control either of these insects.

The federal government through the Great Lakes Forest Research Centre monitors insect and disease population annually within the district. An annual report of insect and disease levels is available in the District Office.

7. FOREST RESEARCH

There are no significant areas of forest research within the planning area.

8. RESOURCE AND USE ANALYSIS

Projected wood requirements indicates an increased demand for all forms of forest products. To meet this demand within the district it may be necessary to implement two basic changes such as:

a. Increase the forest management effort on the production forest land base presently committed to fiber production, and
b. Better utiize some of the existing forest reserves.

The presently assigned S.L.U.P. target of 603,000 cubic metres (213,000 cunits) could be met with the above two changes while still maintaining other forms of land use.

F:commercial and sport fish programmes

1. HISTORY OF COMMERCIAL FISHING

There has been little commercial fishing other than baitfish fishing in the planning area. There have been some commercial licenses for whitefish and sturgeon issued periodically, all on a small scale basis. None of these efforts proved economically viable and soon ceased.

Experimental commercial fishing has also occurred in the district. In 1969 and 1970, Sandford Lake was licensed for whitefish. Marmion and Crooked Pine Lakes were fished under the authority of an experimental permit. These programs were not extended because they were not economically viable. District policy is not to license gillnets because they are not species selective. Presently available impounding gear is either too expensive or not generally effective for taking whitefish, which would be the main target species.

Most of the district lakes are not capable of sustaining a commercial fishery because of their limited size. However, groups of lakes could be licensed and fished on a rotating basis. At present, there are no active licensed commercial fishing operations within the district. Fort Frances District however, has issued a license to fish on Namakan Lake, a part of which is in the Atikokan District.

2. RESOURCE AND USE ANALYSIS

The district is not developed to its maximum level with respect to commercial fishing potential. There are opportunities for seasonal operations for small quotas of whitefish and coarse fish. Should effective trap nets be developed, the Atikokan District would attempt to introduce a fall whitefish fishery.

3. FISHERIES PROGRAMMES

a. The Bait-Fish Fishery

Bait fishing represents another form of commercial fishing within the district. It is administered by a block licensing system. The 60 blocks within the district range from 94 to 260 square kilometers. Excluding Quetico Provincial Park and the White Otter Lake Park Reserve, the entire district is licensed for the commercial taking of bait-fish. The total harvest in 1979 from these licenses was 50,407 dozen, for an approximate value of $47,510. Should a demand arise for a further expansion in the bait-fish industry some blocks may have to be re-assigned.

b. Fish Sanctuaries

Fish sanctuaries have been established within the district to protect lake trout during periods when they are most vulnerable to angling (Figure 22). As a result of over exploitation of the resource, these sanctuaries include the following:

(i) The White Otter Lake Sanctuary The White Otter Lake Sanctuary was imposed to prevent continued overfishing of lake trout and yellow pickerel that occurred in late May and early June. The pressure was mainly from non-residents. Closure dates are May 15 to June 15 annually.

(ii) Lilac and Trout Lakes Sanctuary These lakes contain lake trout and bass. The lake trout have been subjected to excessive pressure in the winter. The sanctuary was designed to prevent winter fishing while allowing a summer fishery. It is expected that the majority of future fishing will be for bass, though some lake trout will undoubtedly be taken. These lakes are closed annually from October 1 to May 31 allowing for the Utilization of the bass populations during the summer. Heavy angling pressure results from non-residents because of the lakes proximity to the Canada - U.S. Boundary.

(iii) Little Greytrout, Secret, Rutter and Crook Lakes Sanctuary These are small lake trout lakes that were previously heavily angled during the winter. The construction of the Bending Lake Road has simplified access to these lakes and will increase angling pressure. The imposition of a sanctuary should prevent deterioration of the fisheries. Closure dates are February 1 to June 30 and August 1 to December 31.

c. The Strategic Plan for Ontario Fisheries (S.P.O.F.)

In this area the plan is committed to the maintenance and protection of healthy fishery resources, and to the rehabilitation of those that have become degraded. To accomplish this, seven lakes in this district are being studied extensively to determine the effects of a variety of stresse The lakes selected locally have been subjected to stresses varying from heavy angling pressure to introductions of non-desirable species, (smelt) and possible water pollution caused by acid rain. The lakes selected for study in this program are: Pekagoning, Little Gull, Crooked Pine, Agnes, Pickerel, Robinson and Niobe Lakes. (Figure 22)

d. Lake Inventory Programme

A lake inventory provides basic data regarding the chemical, physical and biological properties of a water body. Within the Atikokan District this programme has been ongoing since 1957 and standardized in 1968. Approximately 10 lakes are surveyed annually. (Figure 23)

e. Creel Census

Atikokan District Fish and Wildlife staff have conducted creel census studies on various lakes throughout the district. This has been done to determine the effect of winter angling, especially on lake trout lakes. Information on these studies is in district files.

f. Mercury Sampling Programme

Various lakes have been sampled for the mercury contaminant monitoring programme throughout the district by Fish and Wildlife staff. Lakes were selected because of heavy use and geographical distribution. Information on these studies is available in district files.

g. Scale Samples

There has been some live netting conducted to collect scales for aging purposes. Lengths and weights were recorded to determine growth rates for White Otter Lake fish.

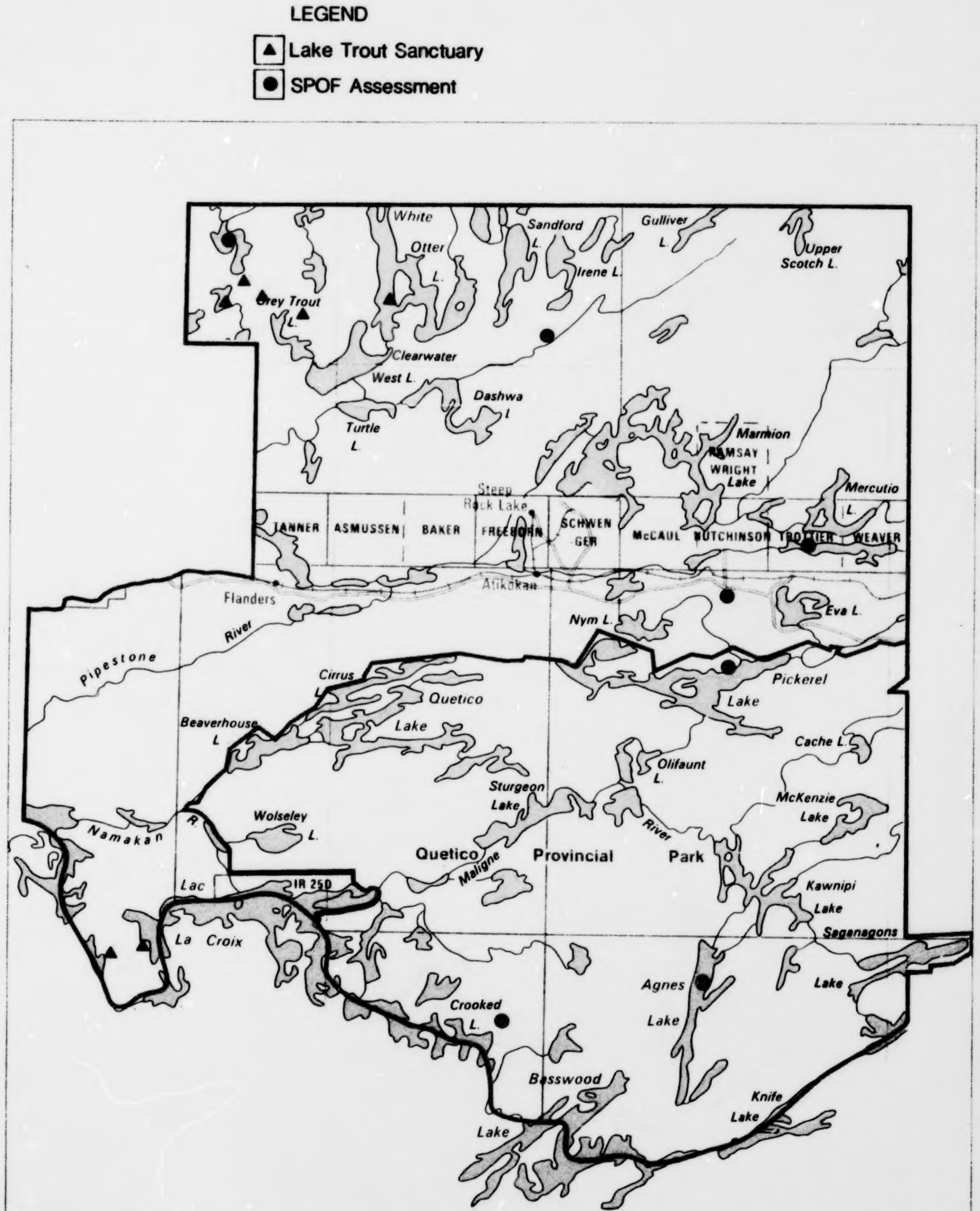
h. Fish Transfers

Adult walleyes have been transplanted to the Rawn Reservior, Williamson Lake, Marion and Lerome Lakes. It is hoped that each of these lakes will develop a self-sustaining walleye population.

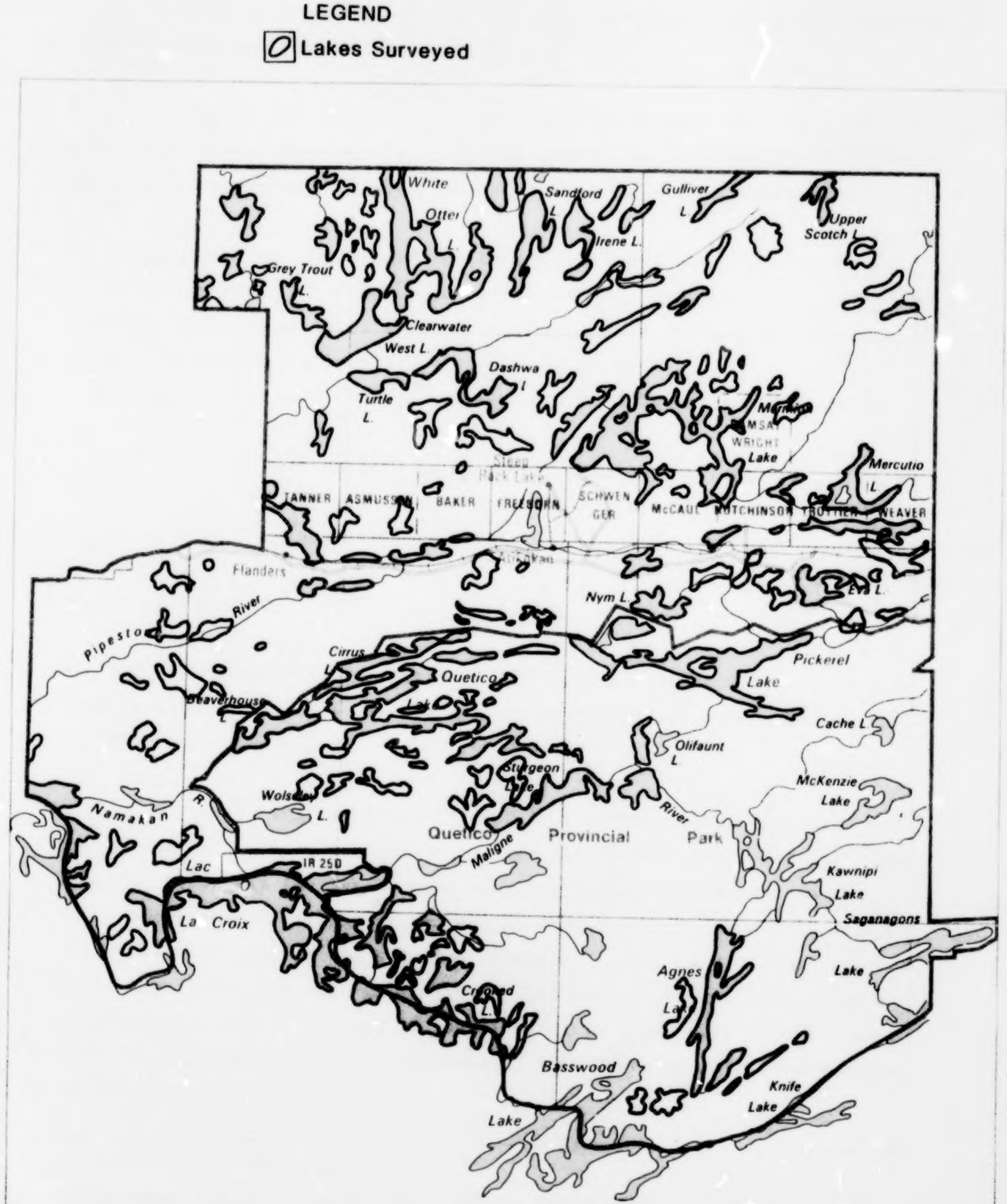
Rainbow smelt has been found in the following lake trout lakes; Eva, Pickerel, Marion and Crystal lakes. To date we are unable to predict the impact on the lakes and in particular to the respective lake trout populations.

There have been some small mouth bass transferred to various lakes. These were transferred without the knowledge of Ministry of Natural Resources staff.

Lake Trout Sanctuaries and SPOF Assessments Figure 22


LEGEND
▲ Lake Trout Sanctuary
● SPOF Assessment
White
Otter L.
Sandford L.
Gulliver L.
Upper Scotch L.
Irene L.
Grey Trout L.
Clearwater West L.
Dashwa L
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Flanders
Atikokan
Eva L.
Nym L.
Pipestone River
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan R.
Quetico Provincial Park
Maligne River
Kawnipi Lake
Lac La Croix
IR 25D
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980


LEGEND
Lakes Surveyed
White Otter L.
Sandford L.
Gulliver L.
Irene L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L.
Turtle L.
RAMSAY WRIGHT
Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FRELSORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Flanders
Atikokan
Eva L.
Nym L.
Pipestone River
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan R.
Quetico Provincial Park
Maligne River
IR 250
Kawnipi Lake
Lac La Croix
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

4. SPORT FISHERY

Both cold and warm water lakes can be found throughout the district with angling equally dispersed between the two fisheries. The cold water fishery consists mainly of lake trout and lake whitefish. In the shallower, more productive water bodies, warm water species such as pickerel and northern pike are the main angling species. The warm water species habitat is more extensive than the cold water.

Fish stocking is not generally an acceptable management technique, except for introducing a fish species into new waters, or to re-establish a fishery that has disappeared. Put and take stocking will not be conducted.

Many lakes have been designated as lake trout lakes and will be managed for this species. Shoreline development, access, and eutrophication will be minimized. Trout lakes within the district are divided into three classifications as follows:

Class 1 - high quality large lakes on which no shoreline development will occur.
Class 2 - also high quality lakes having limited development.
Class 3 - known lake trout lakes on which no special management techniques will be applied.

There are 21 Class 1 trout lakes, 47 Class 2, and 92 Class 3 in the Atikokan district. (Figure 24)

Angling is an important recreational pastime of approximately 25% of the local population. Total angler days for residents and non-residents for the 1979 season were estimated at 140,000.

Spring and summer angling is mainly for lake trout, yellow pickerel and northern pike. Winter fishing is carried out by both local and non-local anglers, primarily for lake trout. Angling pressure is lowest in the fall. Most summer angling is concentrated adjacent to Highway 11 and along the many logging roads in the district. Lakes that must be reached by portage or by aircraft generally receive much less pressure. With snow machines, virtually all of the district is accessible in the winter with the exception of Quetico Provincial Park where no motorized vehicles of any description are permitted.

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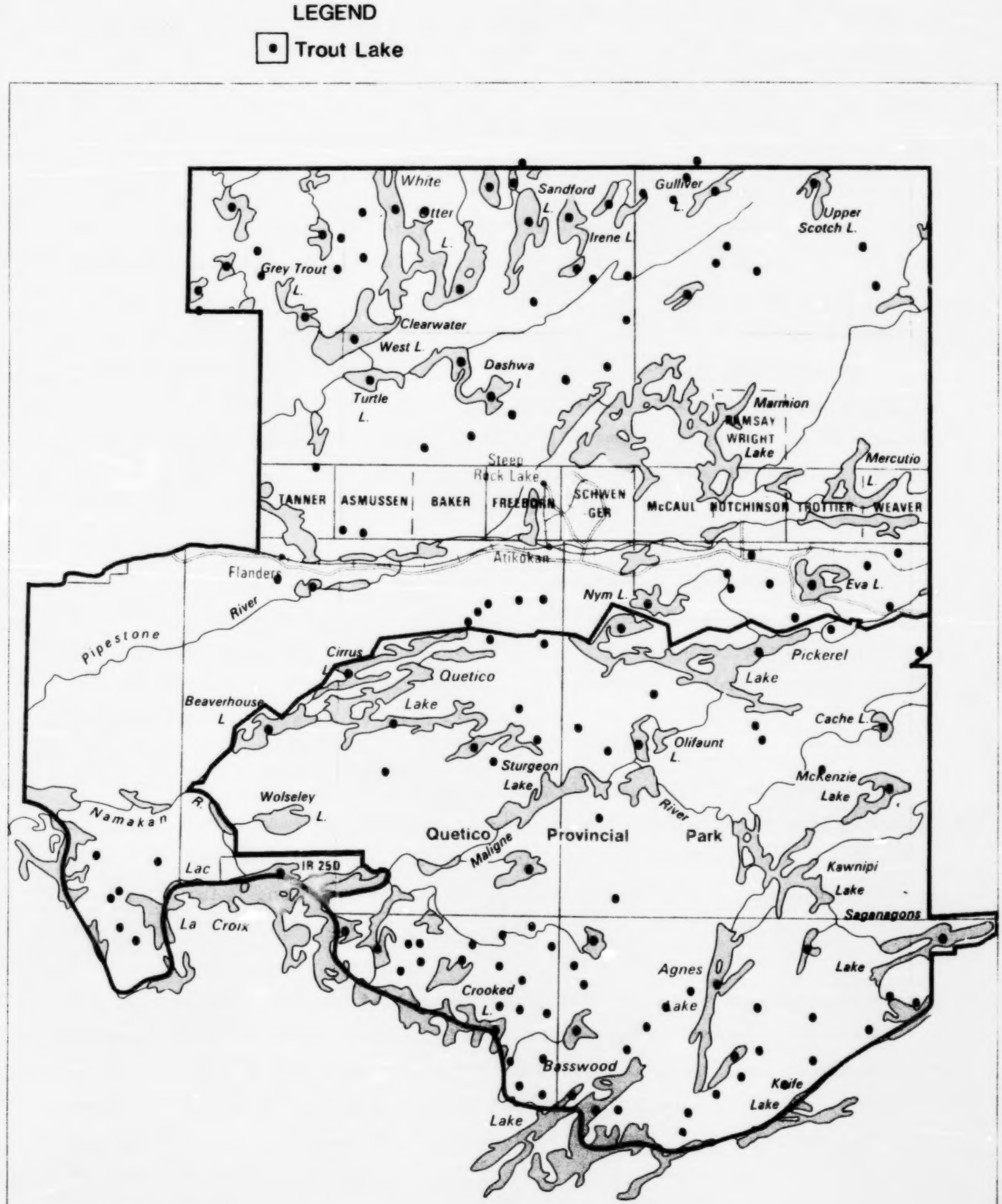
5. RESOURCE AND USE ANALYSIS

The present supply of most sport fish in the district seems sufficient

Lake Trout Lakes

Figure 24


LEGEND
● Trout Lake
White
Otter
L.
Sandford
L.
Gulliver
L.
Upper
Scotch L.
Irene L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Mercutio
L.
Steep
Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Wolseley
L.
Namakan
R.
River
Quetico
Maligne
Provincial
Park
Kawnipi
Lake
Lac
IR 25D
La Croix
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

to meet the current demand, but an imbalance will result in time as demand increases. Lake trout will require more intensive management to maintain present populations. The main limiting factor with lake trout is overfishing.

The demand for lake trout and walleye, may result in a reduced level of user satisfaction if these species become scarce and it takes more effort to catch fewer fish.

---

6. PRODUCTIVITY

a. Cold Water Lakes

The Atikokan District presently (July 1981) has 164 designated lake trout waters for a total of 114,787 hectares.

Cold water or oligotrophic lakes in the district have an average potential annual yield of 1.84 kilograms/hectare of all fish species therefore, the total potential annual yield from cold water lakes is 105,604 kilograms. It is estimated that a total of 26,401 kilograms of lake trout are produced annually. (Based on average production figures for the district 0.46 kg/hectare of lake trout are produced annually).

b. Warm Water Lakes

A total of 253 lakes in the district are designated warm water or mesotrophic lakes for a total of 94,257 hectares. Warm water lakes in the district have an average potential annual yield of 2.92 kilograms/hectare for all fish species. therefore, the total potential annual yield for warm water lakes is 173,396 kilograms.

The total potential annual fish yield for the district is estimated to be 486,439 kilograms of fish which includes all species, composed of both game fish such as pickerel, pike, and coarse fish such as sucker. As a general rule, total productivity is represented by 60% coarse fish and 40% sport fish.

The capability of a lake to produce fish is measured by its productivity or morphoedaphic index (M.E.I.). This morphoedaphic index is derived by measuring the mean depth of a lake and expressing it against the measured amount of total dissolved solids in the water. The morphoedaphic index is then used to determine the total weight of fish flesh produced per hectare per year.

G:wild rice

Wild rice stands are not extensive in the Atikokan District. There are approximately 203 hectares of documented wild rice beds with a capability of producing a harvest of 450 - 900 kilograms per year; harvests will vary directly with growing conditions, water level fluctuations, and harvesting efforts. Wild rice is lightly harvested by the Seine River and Lac la Croix Indian Bands. The 1979 annual wild rice harvest totalled 120 kilograms, therefore, there is potential for a slightly larger yield. Cranberry and Pear Lakes located in the extreme southwest section of the district are noted for their stands of wild rice. Lakes in which wild rice was introduced in, 1970 included; Pipe, Whalen, Price, Mink and Plateau. Potential lakes for wild rice introductions include: Arnold, Car, McQuat, Darby, Gilbert and several small lakes north of Hwy. 11 east of Gilbert Lake and two small unnamed lakes south of Captain Tom. (Figure 25)

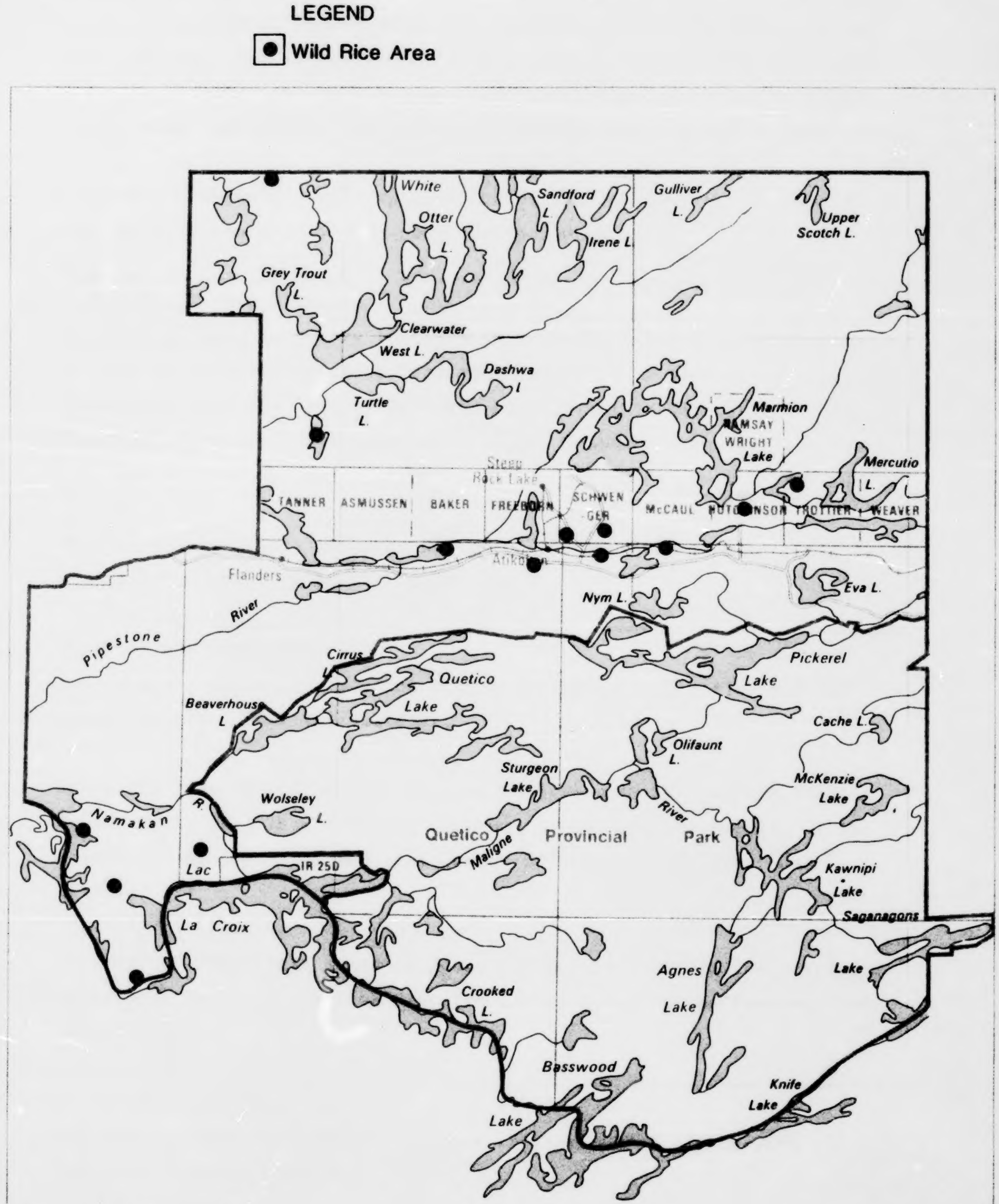
1. RESOURCE AND USE ANALYSIS

The Atikokan District has 180 hectares of wild rice that are actively harvested each year, for an average yield of 270 kilograms.

Future expansion of this resource is possible as many of the shallow waters of the district have not been analyzed to determine if rice will grow.

H:wildlife

Wild Rice Figure 25


LEGEND
● Wild Rice Area
White
Otter
L.
Sandford
L.
Gulliver
L.
Irene L.
Upper
Scotch L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
-GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
Eva L.
Nym L.
River
Pipestone
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Namakan
R.
Wolseley
L.
River
Quetico
Provincial
Park
Maligne
Lac
IR 25D
Kawnipi
Lake
La
Croix
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Knife
Lake
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

1. NATIVE SPECIES

Wildlife found within the Atikokan District are species usually associated with the boreal forest. Some of the more common species are: moose, deer, black bear, beaver, mink, muskrat, otter, lynx, fisher, pine marten, varying hare and red squirrel. Terrestrial bird species such as common raven, common crow, spruce and ruffed grouse, great grey owl, grey and blue jay, pileated, downy and hairy woodpecker, osprey, and bald eagle are also common. The predominate aquatic bird species are the common loon, common merganser, black duck, goldeneye, mallard and herring gull.

Many of the above wildlife species and others too numerous to mention provide both consumptive and non-consumptive uses.

2. CAPABILITY FOR WILDLIFE

The Canada Land Inventory (C.L.I.) is a system for rating the capability of land to naturally produce food and shelter for a particular species (moose and deer are species referred to). Suitable habitat provides a sufficient quality and quantity of food, protective shelter and space for survival, growth and reproduction.

The capability of the Atikokan District, as described by the C.L.I. is generally moderate to low. (Figure 26)

3. MOOSE AND DEER DENSITIES

Both moose and deer are present within the Atikokan District and are dispersed throughout the district.

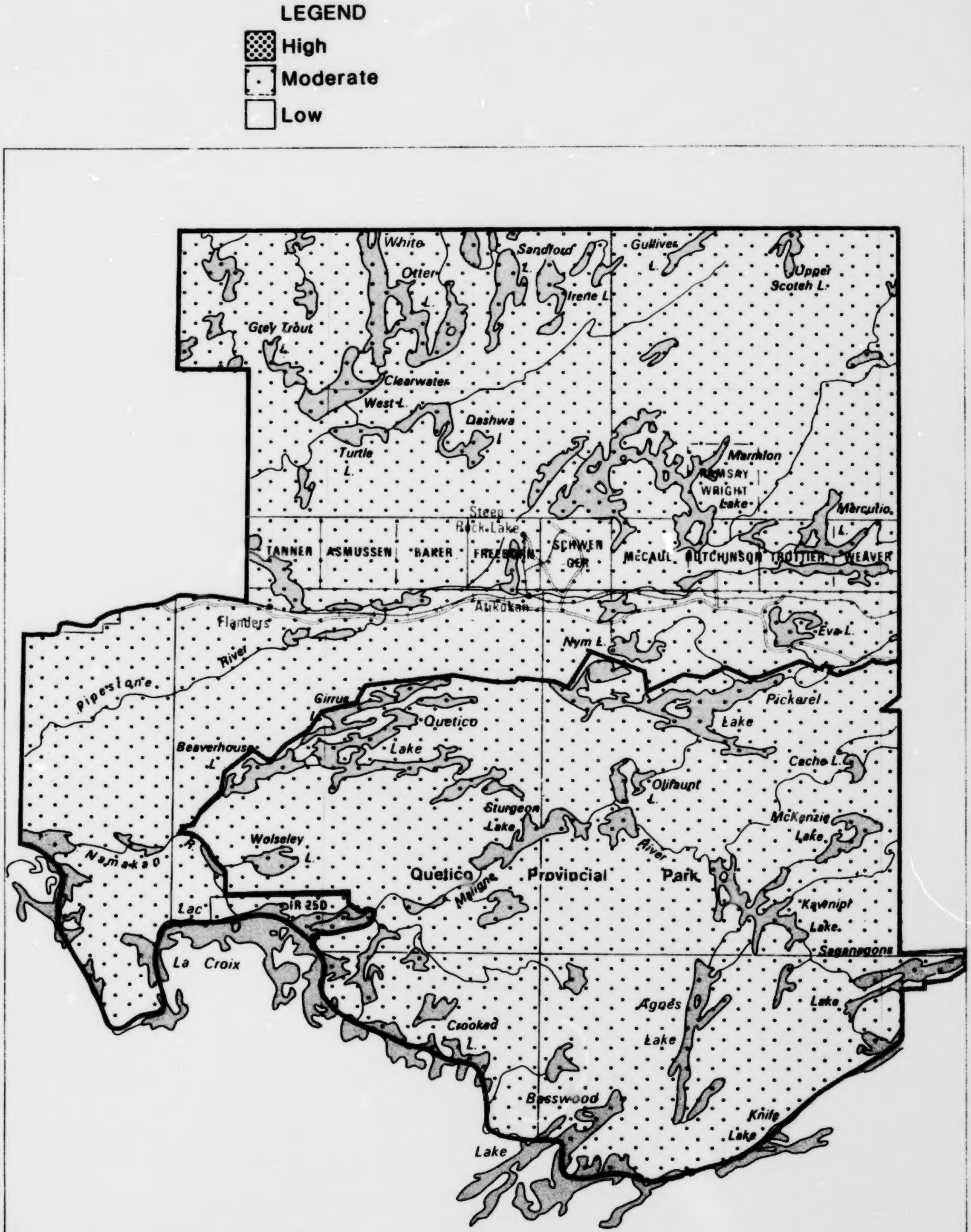
Moose are generally found in greatest densities in the eastern portion of the district. They are less numerous in the western portion of the district, although isolated small areas of high density are found. (Figure 27)

Deer not as widely dispersed as moose are mainly found in the western portion of the district from Grey Trout Lake south to the Namakan River. (Figure 28)

4. HUNTING PRESSURE

Big game hunting is a popular outdoor recreational activity with the emphasis on moose hunting.

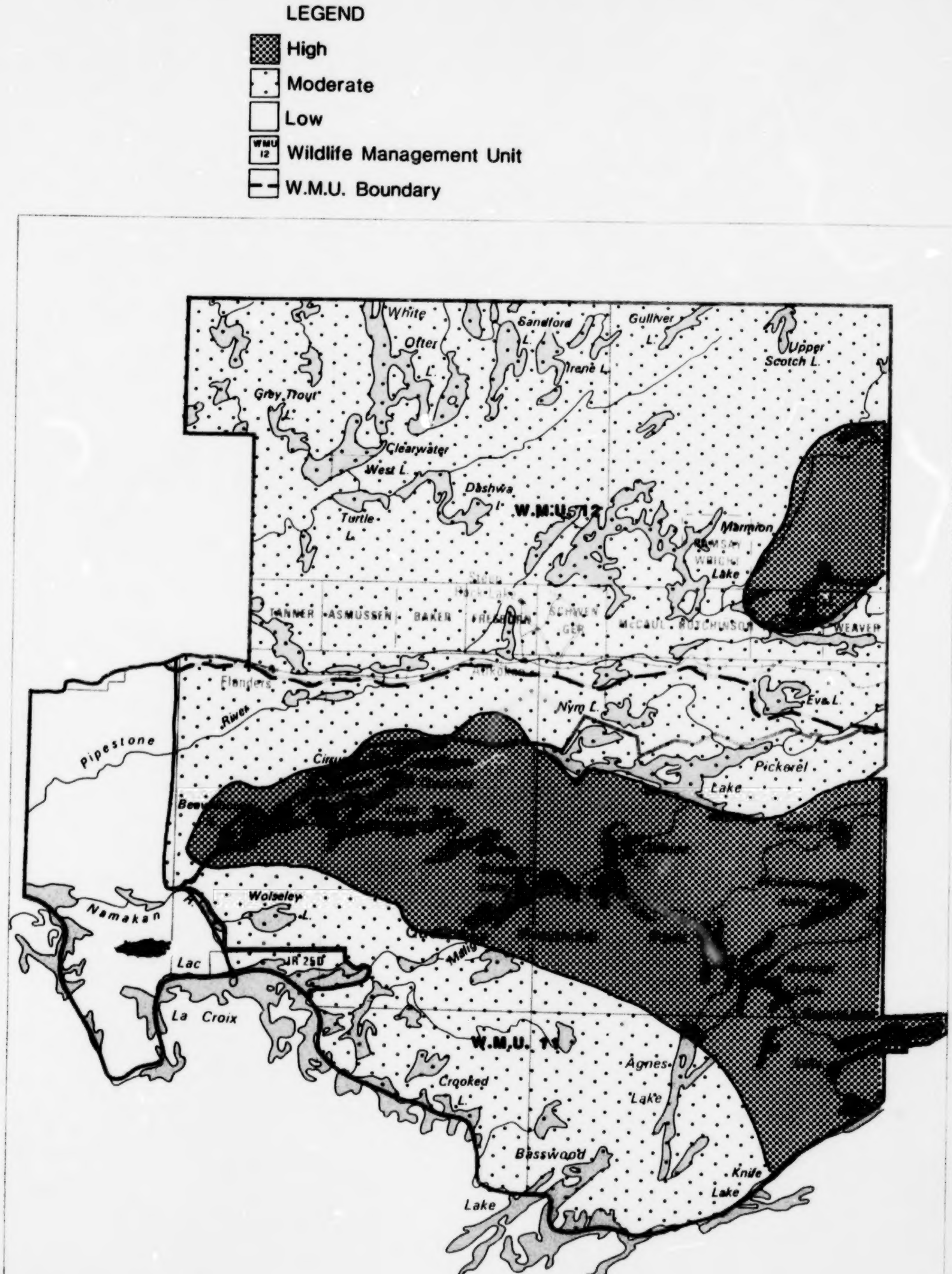
Moose and Deer Capability


LEGEND
▩ High
⊡ Moderate
☐ Low
White
Otter L.
Sandford L.
Irene L.
Gulliver L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Marculio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Girrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan R.
Quetico Provincial Park
Maligne River
Kawnipi Lake
Lac La Croix
IR 25D
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: C.L.I., 1969

Moose Density Areas

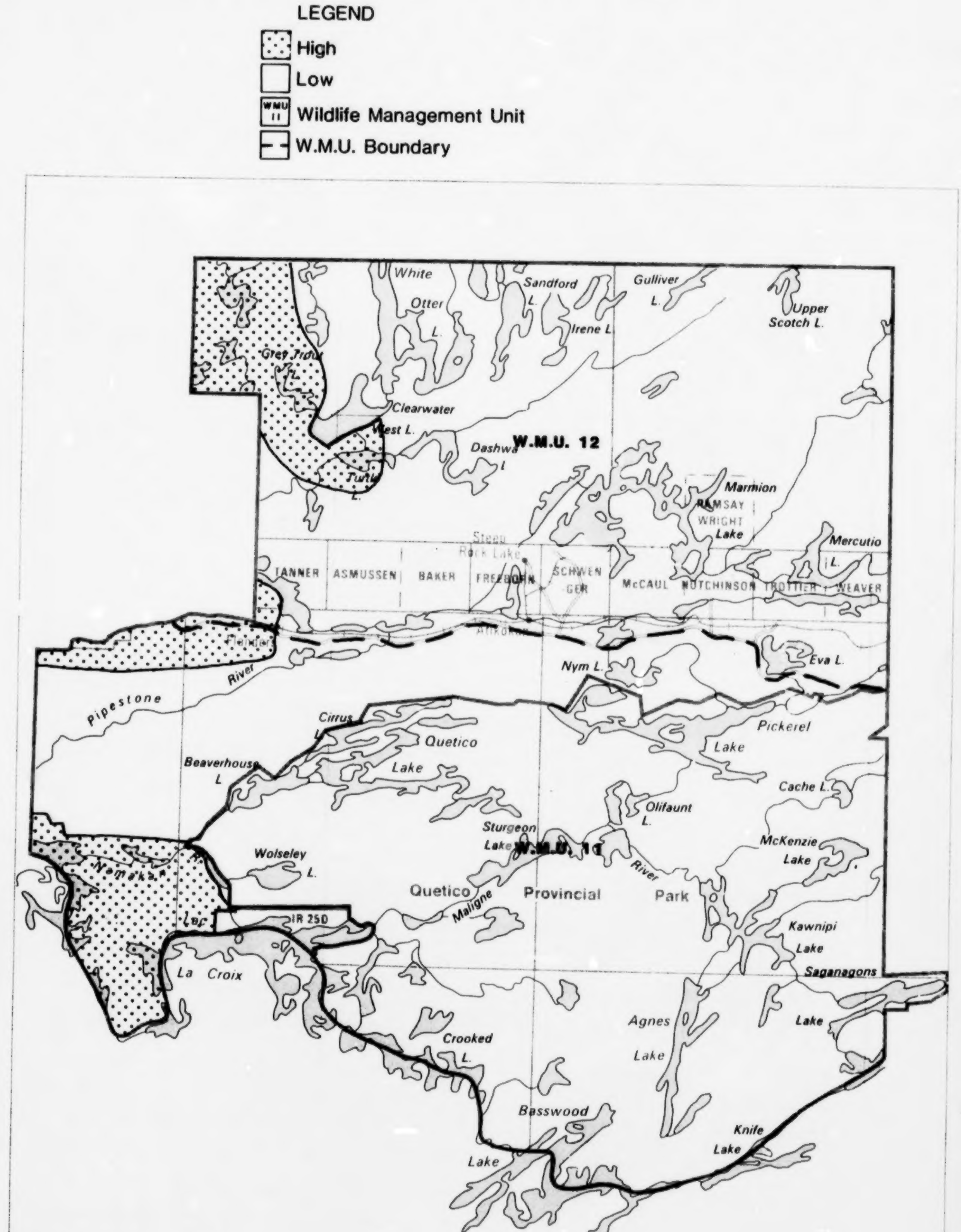
Figure 27


LEGEND
High
Moderate
Low
WMU 12 Wildlife Management Unit
W.M.U. Boundary
White
Otter L.
Sandford L.
Gulliver L.
Irene L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L.
W.M.U. 12
Turtle L.
Marmion
Lake
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
WEAVER
Flanders
Atikokan
Nym L.
Eva L.
Pipestone
River
Pickerel
Lake
Wolseley L.
Namakan
Lac
IR 26D
La Croix
W.M.U. 11
Agnes
Lake
Crooked L.
Basswood
Lake
Knife
Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1981

Deer Density Areas

Figure 28


LEGEND
High
Low
WMU 11 Wildlife Management Unit
W.M.U. Boundary
White
Otter
L.
Sandford
L.
Irene L.
Gulliver
L.
Upper
Scotch L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L.
W.M.U. 12
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Nym L.
Eva L.
Pipestone
River
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
W.M.U. 11
Wolseley
L.
McKenzie
Lake
Namakan
R.
Quetico
Provincial
Park
Maligne
River
Lac
IR 25D
La Croix
Kawnipi
Lake
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1981

Wildlife management units were established in Ontario in 1975 in order to aid in more effective management of big game populations. The Atikokan District contains parts of 2 wildlife management units, 11 and 12. (Figure 29) Unit 11 is 9,574 square kilometers and includes Quetico Provincial Park and Unit 12 is 10,563 square kilometers. Parts of Unit 11 and 12 fall within Thunder Bay, Fort Frances, and Ignace Districts.

Results of a mail survey in 1979 show that big game hunters spent 12,415 days in pursuit of moose, deer and black bear. Table 8 shows the Atikokan District big game harvest.

TABLE 8 ATIKOKAN DISTRICT BIG GAME HARVEST 1979

	Number of Hunters	Number of Animals Killed	Success %
Moose	1,021	256	25%
Deer	452	131	28%
Bear	103	65	63%

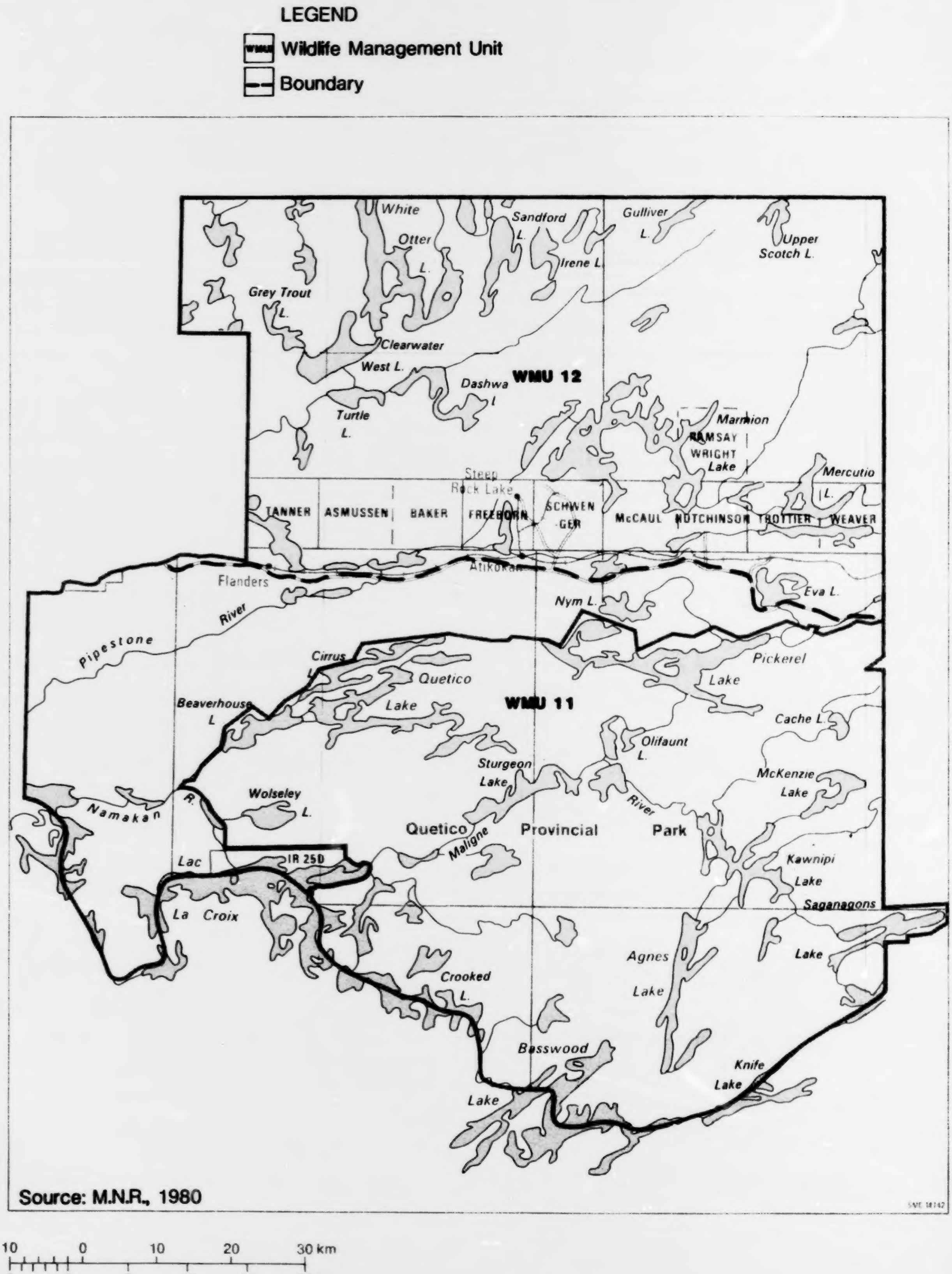
5. MOOSE

In 1979, 1,021 hunters spent 8,615 days hunting and harvested 256 moose. Moose hunting accounts for 69% of the total big game hunting days in the Atikokan District. The success rate was 25%.

The 1980 aerial moose survey in wildlife management unit 11 estimates the moose population at .27 moose/square kilometer for a total moose population of 2,625 animals. Wildlife management unit 12 was surveyed in 1979 and the estimated population is 3,063 animals at a density of .29 per square kilometers. The total moose herd is estimated at 5,689 animals. Moose harvest information is available in district office files.

6. DEER

Deer hunting accounts for 24% of the total big game hunting days in the Atikokan District. In 1979, 452 hunters spent 3,000 days to harvest 131 deer. The success rate was 28%. Most hunters are from Ontario. Non-residents must have a guide in the Rainy River Territorial District.


LEGEND
WMU Wildlife Management Unit
Boundary
White
Otter L.
Sandford L.
Gulliver L.
Upper Scotch L.
Irene L.
Grey Trout L.
Clearwater West L.
Dashwa L
WMU 12
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus L.
Quetico Lake
Pickerel Lake
WMU 11
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan R.
Quetico Provincial Park
Maligne River
Lac La Croix
IR 25D
Kawnipi Lake
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

An anterless permit system was instituted in Ontario, in the fall of 1980 in an effort to control an overharvest of anterless deer.

During the spring of 1981, a deer pellet group survey was carried out in wildlife management unit 11. This was the first survey of this type carried out by the Atikokan District. This survey allowed the district to estimate the deer herd population. Survey results indicate that there is a 1981 fall population of approximately 4,851 animals within the unit. The estimated population for unit 12 is 1,725 deer. But there is no reliable survey information to support this figure.

Since deer are sensitive to climatic conditions, a severe winter with an extreme depth of snow would seriously reduce the size of the district's herd.

7. BEAR

There are five known outfitters who cater to bear hunters in the Atikokan District. Of these, two are major outfitters, others will probably become involved as the economic advantages are realized.

For 1980 the estimated economic impact is about $60,000.00 (150 hunters x $400.00/hunter) to the local economy.

As a result of the 1980 - 81 bear season there appears to be a trend towards an increased number of non-residents and annual kill (Table 9).

TABLE 9 BEAR HARVEST BY NON-RESIDENTS (from Export Permits)

Wildlife Management Unit No.	1979	1980
11	11	20
12	52	81

Note The increase in bear harvest from 1979-80 by non-residents may be due to:
1. Increase in number of hunters.
2. Increase in efficiency in hunting methods.

8. RESOURCE AND USE ANALYSIS

Within Wildlife Managements Units 11 and 12, the present estimated moose kill is slightly below the estimated annual allowable harvest. With new harvest restrictions, a sustained harvest can likely be achieved. The deer harvest can be increased in the future.

It would appear that at present population levels, the deer harvest could be increased to meet the annual allowable harvest.

9. SMALL GAME AND MIGRATORY BIRDS

Most local people appear to hunt grouse and to a lesser degree varying hares. Most of the hunting is done by residents along roads and trails and declines once the big game seasons open.

Migratory bird hunting is of minor importance as Atikokan District is not located on a flyway. There is some good duck hunting in the early part of the season up to mid-October. One of the favourite hunting areas is Lower Steep Rock Lake.

I:commercial fur

In 1978 - 79, the commercial fur harvest in the Atikokan District involved 93 trappers working 47 registered trap lines, many lines are worked by more than one trapper. (Figure 30)

Nearly all trapping occurs on Crown land, with a small portion involving private lands, such as Ontario Hydro.

The fur harvest for 1978 - 79 season yielded $174,754. resulting in an average income of $1,879. per trapper. A breakdown of the species harvested and their value is as follows:

TABLE 10 FUR HARVEST - FALL OF 1978 - SPRING OF 1979 (1)

Species	Harvest	Total Value
Beaver	2,646.	$96,844.
Mink	231.	5,768.
Marten	1,057.	31,763.
Otter	123.	12,143.
Fisher	58.	10,439.
Lynx	5.	1,878.
Muskrat	521	3,673.
Others	158	12,246.
Total	4,799	$174,754.

Note *(1) Ministry of Natural Resources*
Atikokan District
Computer Printout 1978

Beaver is the main species harvested and is managed under a quota system. The 1978 - 79 quota for the district was 4,514 beaver; 59% of this total was taken.

---

1. RESOURCE AND USE ANALYSIS

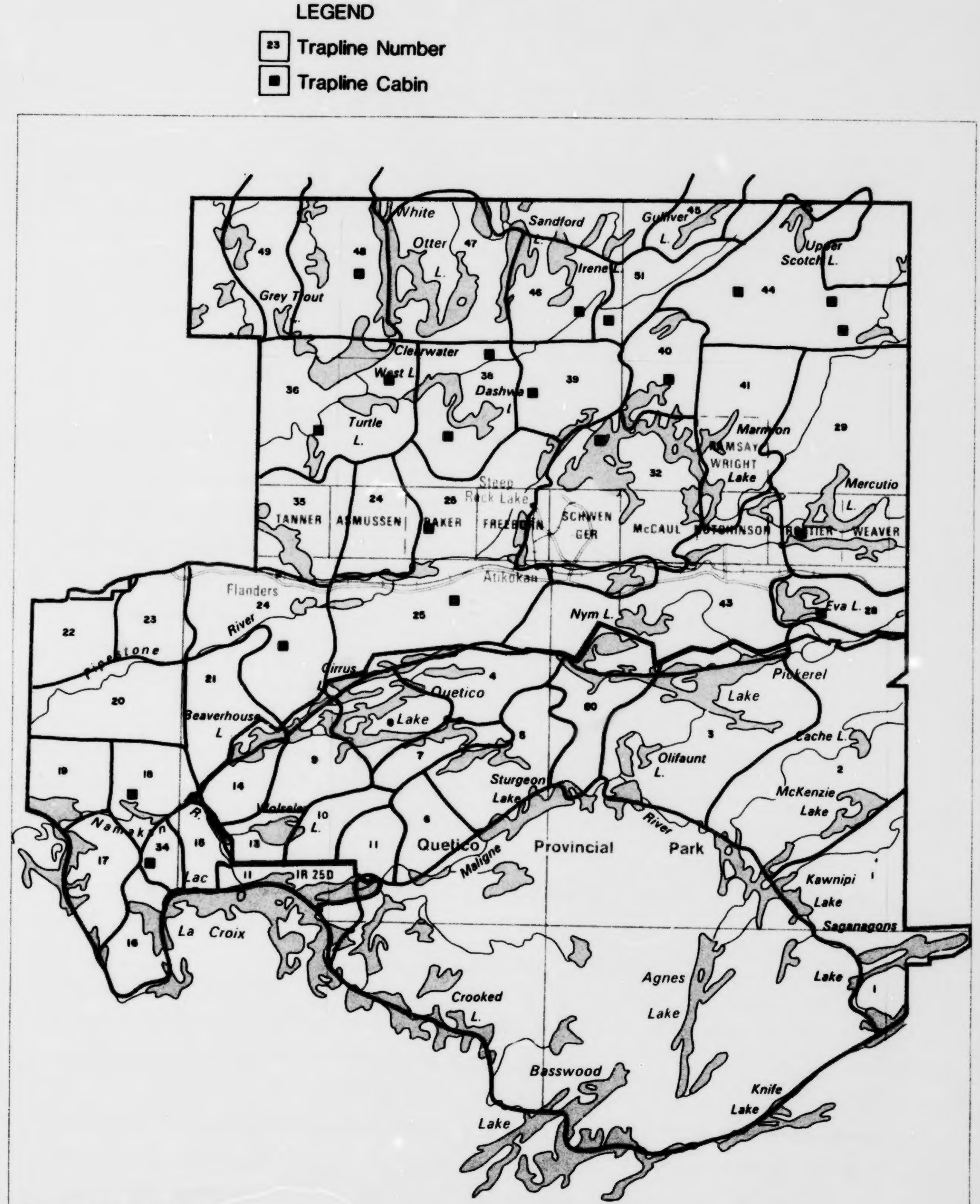
With the available data, it is not possible to accurately determine if fur bearers are being over or under harvested.

Population levels are almost impossible to determine for most species. Beaver, however, are easier to census, since their conspicuous lodges can be counted and evaluated (active or abandoned) by aerial surveys in the early fall. Using a known level of harvest (that the trapper can take 1.5 beavers per house on a sustained yield basis) quotas can be established.

A study of the trapping records for the last 7 years in the Atikokan District shows that most trappers harvest below their established beaver quotas. As more lines are surveyed the harvest total could increase in the future. Although population levels cannot be established, it is likely that other fur bearers are being similarly underharvested.

Traplines

Figure 30


LEGEND
23 Trapline Number
■ Trapline Cabin
White Otter L.
Sandford L.
Gulliver L.
Irene L.
Upper Scotch L.
Grey Trout
Clearwater West L.
Dashwa L.
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
BOTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Namakan R.
Lac La Croix
IR 25D
Quetico Provincial Park
Maligne River
Kawnipi Lake
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
1
2
3
4
5
6
7
9
10
11
13
14
15
16
17
18
19
20
21
22
23
24
25
28
29
32
34
35
36
38
39
40
41
43
44
45
46
47
48
49
50
51
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

J: recreation

Recreation is defined as any activity that individuals voluntarily engage in during their leisure time; the motivation being personal satisfaction or the pleasure experienced before, during and after participation.

Outdoor recreation activities, take place in a natural environment as opposed to a man-made one. The countless lakes and rivers in the planning area provide excellent opportunities for both summer and winter recreation activities. The increase of Crown land recreational activities and the development of their related facilities have emerged simultaneously during the past six years.

Winter activities including snowmobiling and cross-country skiing have increased significantly during this time, activities such as hiking and canoeing have increased steadily over a four year period. Nearly every outdoor activity and the amount of satisfaction obtained is directly influenced by the weather.

Climate in the Atikokan district poses minor restrictions to outdoor activities. Spring, fall and summer months usually extend over a seven month period, allowing for a variety of outdoor recreational activities. A five month period of winter with a substantial snow base, allows for winter activities such as snowmobiling, skiing and snowshoeing. Extremely cold weather restricts winter activities to some degree.

1. PUBLIC RECREATION

A very significant proportion of both intensive and extensive recreation occurs in an unorganized manner on Crown land.

Intensive recreation usually requires a small area of land for many people. Cottaging, one such activity within the district, is concentrated along lakes near both sides of Highway 11 and in the southwestern extremity of the district. These cottage areas coincide with many of the higher recreation capability areas identified on O.L.I. maps. (Figure 31)

Some areas of the district provide outstanding recreational opportunities for low intensity use. This scattered, infrequent use retains the quality of the experience and preserves the environment.

Quetico Provincial Park, with its outstanding canoeing and camping opportunities and historical boundary waters travel corridor is classed as a moderate to low recreational area according to O.L.I.

Extensive recreational activities associated with areas of moderate recreation capability, are used by a small number of people over a relatively large area. These activities are of a dispersed nature and include: hunting, fishing, hiking, canoeing, and cross-country skiing. They are faciliated by the maintenance of access points, canoe routes and hiking and snowmobile trails.

Camping on Crown land is dispersed throughout the district. However, concentrations of campers are found along access roads at or near access points, where water based activities are easily carried out. There are 23 recognized camping areas allowing for approximately 274 campsites. Camping facilities such as tables or fire grills are not supplied at any of these sites in the district. Some access points are posted against camping due to a lack of space and conflict with nearby commercial facilities. (Figure 32).

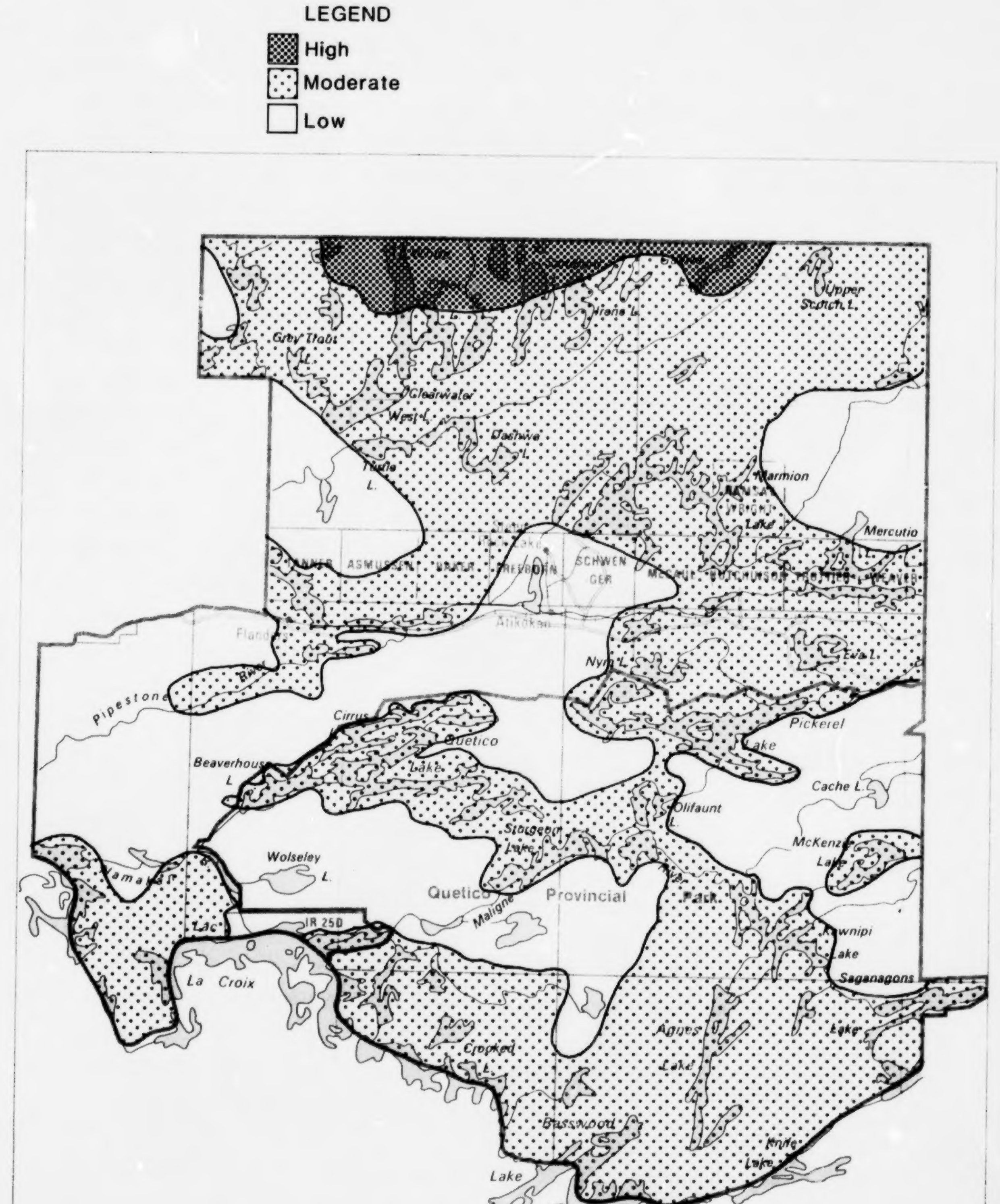
a. Canoeing

Canoeing is readily carried out in the Atikokan District. There are 10 official canoe routes covering 1,062 kilometers north of Quetico Provincial Park.

(i) Resource and Use Analysis Atikokan has completed its expansion program for canoe routes outside Quetico. No additional kilometers of canoe routes will be developed since virtually every practical, conceivable route has been investigated and has either been developed or discarded.

This does not present a problem, however, since canoeing in that part of the district outside of Quetico is in its infancy, with most routes receiving a small fraction of the use they can sustain. Problems are not anticipated in meeting the demand for years to come.

Recreation Capability


LEGEND
▩ High
⠿ Moderate
☐ Low
Upper Scotch L.
Irene L.
Grey Trout L.
Clearwater West L.
Thistle L.
Marmion
Lake
Mercutio
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
Atikokan
Flanders
Pipestone
Nym L.
Eva L.
Pickerel Lake
Cirrus
Quetico Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Wolseley L.
Lac La Croix
Quetico Provincial Park
Maligne
IR 25D
Kawnipi Lake
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: O.L.I., 1975

b. Boating

(i) Resource and Use Analysis "Boat routes" as such have not been established in the Atikokan District because of a lack of large accessible bodies of water or interconnected lakes suitable for boat travel (ie. without manual portages). The district does have over 244,000 hectares of water, much of it accessible on a lake by lake basis, so there are ample opportunities to enjoy recreational boating on a day use or boating/camping basis. It should be noted the use of motor powered watercraft is not permitted in Quetico Provincial Park.

c. Trails

The outdoor recreation trails programme is split between summer hiking trails and winter cross-country ski and snowmobile trails. Multiple use trails total 95 kilometers with cross-country ski trails totalling 32 kilometers. The seven trails within the district have been built and maintained by the Ministry. Occasionally the local snowmobile club assists with the grooming of some of the trails.

(i) Resource and Use Analysis The only hiking trails in the district currently receives a moderate amount of summer use, mostly by local residents. It is located within a few miles of the town site, and is able to meet the current demand. The capacity for expansion of hiking trails exists, but until the demand increases, the construction of additional trails is unlikely, Hiking trails may see minor growth if cross-country ski trails are built through terrain which allows summer use.

Cross-country ski and snowmobile trails tend to grow together, since many snowmobile trails see heavy use by skiers.

Peak use of trails by snowmobilers occurred four years ago, with every trail being heavily used even in the coldest weather. The use has dropped noticeably due to the decrease in popularity of the sport, decline in the town's population, and the increase in the price of gasoline.

Cross-country ski trails have seen steadily increasing use during the period that snowmobile use declined.

The existing trail network is meeting the demand for snowmobile routes around the town. A significant amount of recreational snowmobiling occurs on lakes and old road systems, away from organized trails and structured group activities, and often it is secondary to another recreational pursuit, such as ice fishing. The network of snowmobile trails could be expanded, but will likely not grow signficiantly in the next few years, as long as the existing trail network meets the demand.

Currently the trail network is not overused, and it should continue to satisfy the demand of local skiers. The number of kilometers of ski trails could be greatly increased if an increase in the skiing activity made this necessary; however, the first step would probably be to upgrade the existing trails and accommodate some of the demand that way.

d. Parks

Provincial parks represent significant natural, cultural and recreational environments dedicated for all time to the people of Ontario and others who may use them, for their healthful enjoyment and appreciation, more specifically, provincial parks are intended to:

- protect provincially significant elements of the nature and cultural landscape of Ontario (protective role)
- provide a wide variety of outdoor recreation opportunities ranging from "high intensity day use" to "low intensity wilderness experiences" (recreational role)
- provide opportunities for exploration and appreciation of the outdoor, natural and cultural heritage of Ontario (heritage appreciation role)
- facilitate travel by residents of and to Ontario who are discovering and experiencing the distinctive regions of the province (tourism role).

Since no single park can serve all of these purposes at the same time; six broad classes of provincial park have been established:

- Wilderness Parks:	Wilderness parks are substantial areas where the forces of nature are permitted to function freely and where visitors travel by non-mechanical means and experience expansive solitude, challenge, and personal integration with nature.
- Nature Reserves:	Nature reserves are areas selected to represent distinctive natural habitats and landforms of the Province, and are protected for educational purposes and as gene pools for research to benefit present and future generations.
- Historical Parks:	Historical Parks are areas selected to represent the distinctive historical resources of the Province in open space settings, and are protected for interpretive, educational and research purposes.

- Natural Environment Parks:	Natural Environment Parks incorporate outstanding recreational landscapes with representative natural features and historical resources to provide high quality recreational and educational experiences.
- Waterway Parks:	Waterway parks incorporate outstanding recreational water routes with representative natural features and historical resources to provide high quality recreational and educational experiences.
- Recreation Parks:	Recreation parks are areas which support a wide variety of outdoor recreational opportunities for large numbers of people in attractive surroundings.

(i) Development The Atikokan District has one wilderness park, Quetico, and one park reserve, White Otter Lake. Quetico is the Atikokan District's only provincial park. It was originally established as a forest reserve in 1909. In November 1913, the reserve was given park status and set aside as a public park for the people of Ontario.

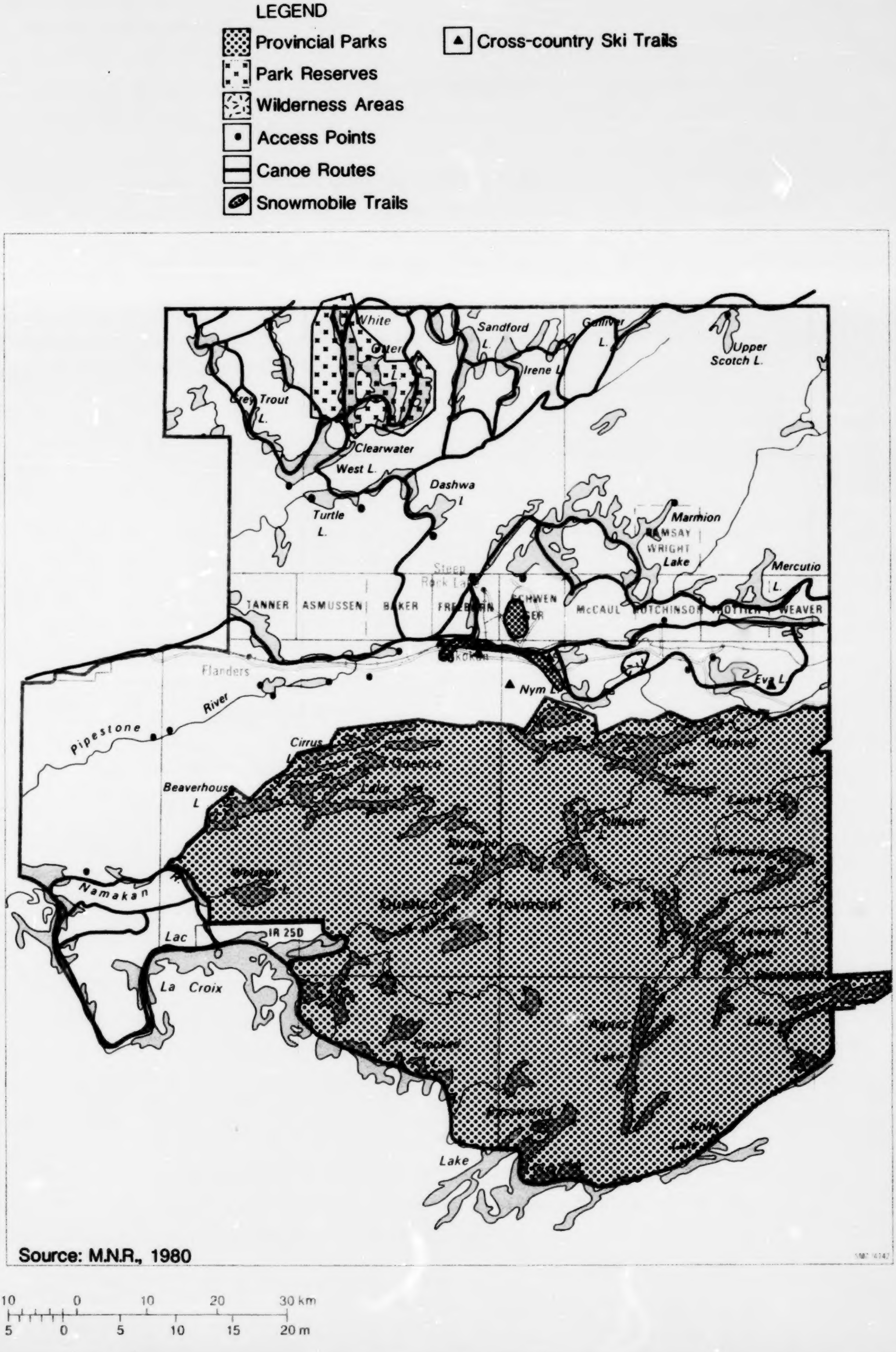
In 1973, Quetico Provincial Park was reclassified as a wilderness park thereby preserving an area of unique natural and historical significance. Recreational opportunities include canoeing, camping, fishing, snowshoeing, backpacking, and photography. The park encompasses 475,783 hectares and is located 160 kilometers west of Thunder Bay. The only designated campground, located at French Lake, in the northeast corner of the park contains 97 campsites and 37 tent and house trailer sites. Revenues are shown on Table 11.

The park is managed and operated under the direction of an approved master plan.

White Otter Lake became a park reserve in June 1968. It is located in the northwest portion of the district and covers 242 square kilometers or 24,640 hectares. A key feature included with the outstanding natural features of the reserve, is the now derelict structure of a log castle located in the north end of the reserve. The castle was built by a local trapper in the early 1900's. Access to the park reserve is by boat or aircraft. There is an abandoned logging road accessing Ann Bay in the southeast corner of the reserve, however, the road is in poor condition

Public Recreation Areas

Figure 32


LEGEND
Provincial Parks
Park Reserves
Wilderness Areas
Access Points
Canoe Routes
Snowmobile Trails
Cross-country Ski Trails
White
Otter L.
Sandford L.
Irene L.
Gulliver L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L.
Turtle L.
Marmion
RAMSAY WRIGHT
Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
WEAVER
Atikokan
Flanders
Nym L.
Eva L.
Pipestone River
Cirrus L.
Beaverhouse L.
Namakan R.
IR 25D
Lac La Croix
Quetico Provincial Park
Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

and is barely passable.

There are no immediate plans for the conversion from a park reserve to a Provincial Park.

Several candidate park areas have been identified in the North Central Region and are presently undergoing Ministers review, as part of the whole provincial park systems plan. Upon approval, candidate areas will be used in the preparation of optional District Land Use Plans. One of these areas is the Turtle River Candidate Waterway Park. A small portion of the candidate park is in the Atikokan District and includes parts of Pekagoning and Dibble Lakes.

TABLE 11 QUETICO PARK USES AND REVENUE

		1975	1976	1977	1978	1979	1980
Park Interior User Days	Day Use	11,737	10,217	11,658	10,496	4,424	4,100
	Campers	24,860	25,676	23,216	23,462	20,824	20,100
	Totals	36,597	35,893	34,874	33,952	24,131	24,200
Park Campground User Days	Day Use	12,946	18,650	16,079	12,059	2,375	1,300
	Campers	15,953	11,184	12,776	7,511	6,825	5,300
	Totals	28,899	29,834	28,855	19,570	9,200	6,600
Total Revenue $ of Park		241,230	249,230	234,148	317,478	310,217	210,300

2. PRIVATE RECREATION

"Summer cottages" are an important recreational outlet for many people in the Atikokan District. Most of the lots have been allocated by the Crown on a number of lakes in the district, although three private developments have occurred.

The three recreational developments within the private sector are:

- The Eva Lake development with a private residential area of 73 lots originate from a subdivision of a mining claim.

- The Finlayson Lake development involving the leasing of about 10 individual lots on private land, (proposal only).
- The Nydia Lake development, owned by the Canadian National Railway (C.N.R.) has 13 cottage lots leased on their Abiwin station property.

a. Current Level of Development

The total number of cottage sites in the Atikokan District is 438, including individual locations and multi-lot subdivisions. Of this figure, 371 cottages are located on patented lands; the other 67 cottages are on lands leased from the Crown.

Cottage densities have established several cottage areas along both sides of Highway 11 on large accessible lakes and in the southwestern section of the district along the United States boundary water. Eva, Nym, Crystal and Sandpoint Lakes are examples of lakes with heavy densities, with many cottages converted to permanent residences. (Figure 33)

Cottaging generates approximately 87,600 user days per year assuming 200 user days per cottage per year.

The Ministry has undertaken a lake planning program, providing Crown land to the public for the purpose of cottage development.

Since 1976, 63 Crown cottage lots have been disposed of on a lease basis. In 1980, a further 25 lots were scheduled for disposition on Turtle Lake. Crooked Pine Lake will have 79 lots available pending approval of the Lake Development Plan. Calm Lake has 27 lots which are available should increased demand arise in the future. A new Crown Land disposition policy permits the sale of Crown cottage lots and conversion from lease to patent of existing cottage lots.

Associated with cottage development, the Ministry of Natural Resources has issued land use permits for; 8 boathouse sites, 1 dock site and 4 boathouse and docks on recreational lakes within the district.

In the past, land use permits were issued for hunt and fish camps. These renewable one year permits, permit the holder to construct camps or cabins on 0.2 hectare sites. Some camps were utilized to the same extent as seasonal cottages, while most were used only during the hunting season. To replace the hunt and fish camps, a remote cottaging program has been

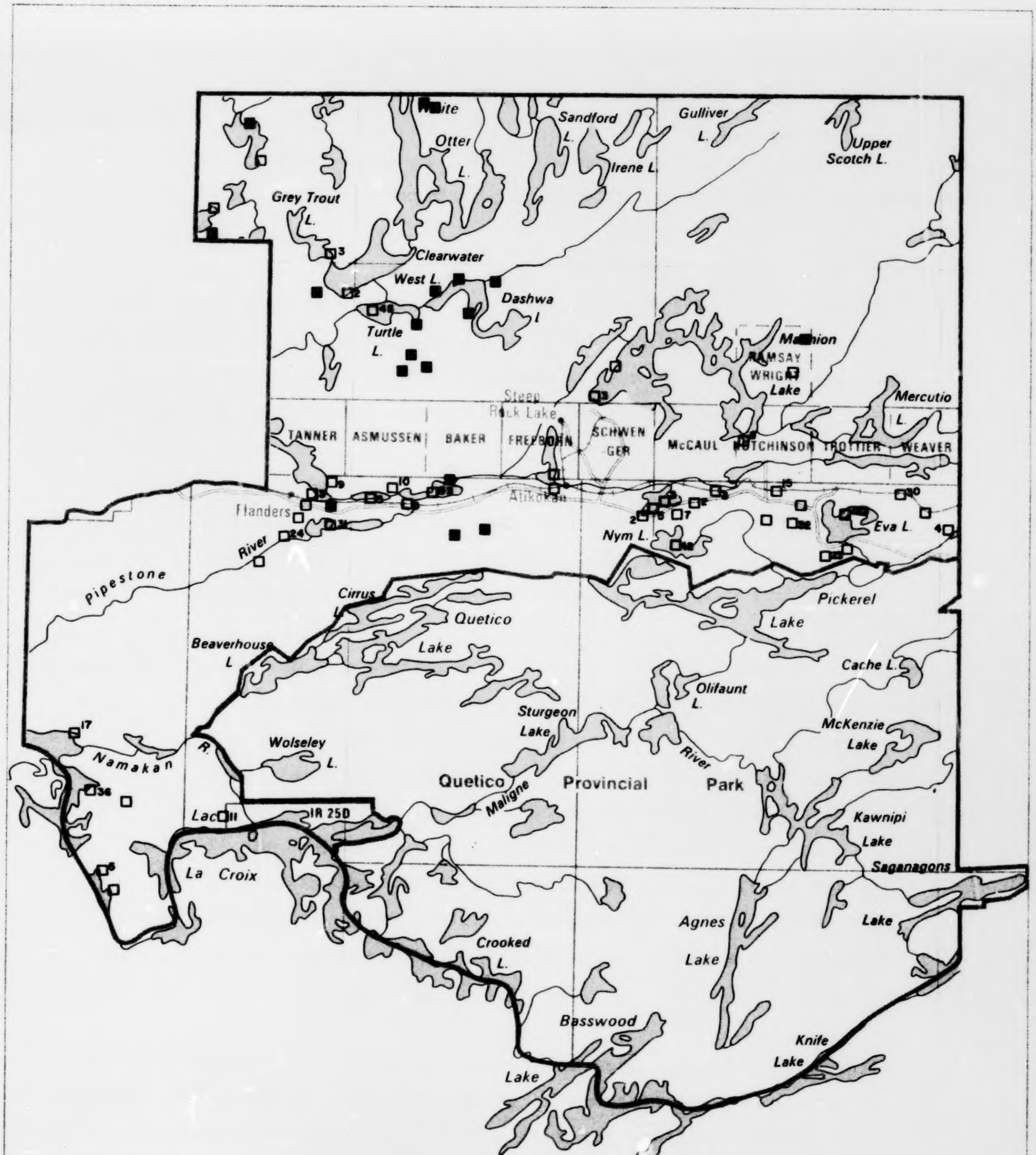
Cottaging

Figure 33

LEGEND

☐ Cottage (Number indicates if more than one)

■ Remote Cottage


White
Otter
L.
Sandford
L.
Gulliver
L.
Upper
Scotch L.
Irene L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L.
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWEN
-GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Flanders
Atikokan
Nym L.
Eva L.
Pipestone
River
Cirrus
L.
Quetico
Lake
Pickerel
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Namakan
R.
Wolseley
L.
Quetico
Provincial
Park
Maligne
River
Lac
IR 25D
La Croix
Kawnipi
Lake
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

introduced. This program provides a frontier type of cottaging experience with outhouse and water pail facilities only. Currently there are 17 remote sites in the Atikokan District, of which 12 have been developed.

b. Resource and Use Analysis

From 1974 until 1980 the Atikokan Administrative District has made available 263 lots through lake development plans. The potential of meeting the district's future cottage lot quota will be affected by such factors as: water quality, sensitive areas, access and distance from urban centres.

---

3. TOURISM

Tourism in the Atikokan District caters to the hunter, fisherman and people seeking a wilderness experience. Tourism contributes to the economy of the district.

Commercial recreation development basically coincided with the completion of the eastern portion of Highway 11 in 1954, linking Atikokan to Thunder Bay. One of the earliest establishments was located 32 kilometers east of Atikokan, on Niobe Lake, adjacent to the highway.

In the northern section of the district, commercial recreation exists in the form of commercial outpost camps and fishing and hunting lodges. There are a total of 41 commercial outpost camps located throughout the district. The majority of these operations began between 1960 - 1975.

Commercial recreation is considered to include those facilities or areas which are privately owned and operated, that offer a variety of recreational activities for a fee. Commercial recreation would then include such things as: lodges, resorts, campgrounds, youth and church camps, outpost camps, hotels, motels, ski hills, and golf courses and riding stables, which generally require a large local population base to operate profitably. Located within the town of Atikokan are two local ski hills and one golf course, a single municipal campground, Bunnell Park, has a capability of 20 campsites and 20 trailer pull throughs with electrical hookups operated by the Township of Atikokan.

There is a total of 23 commercial tourist resorts and outfitters in the district. Of these, 17 provide lodging accommodations. Additionally, 10 of the commercial operators provide tent and trailer camping, for a total of 158 campsites. (Figure 34)

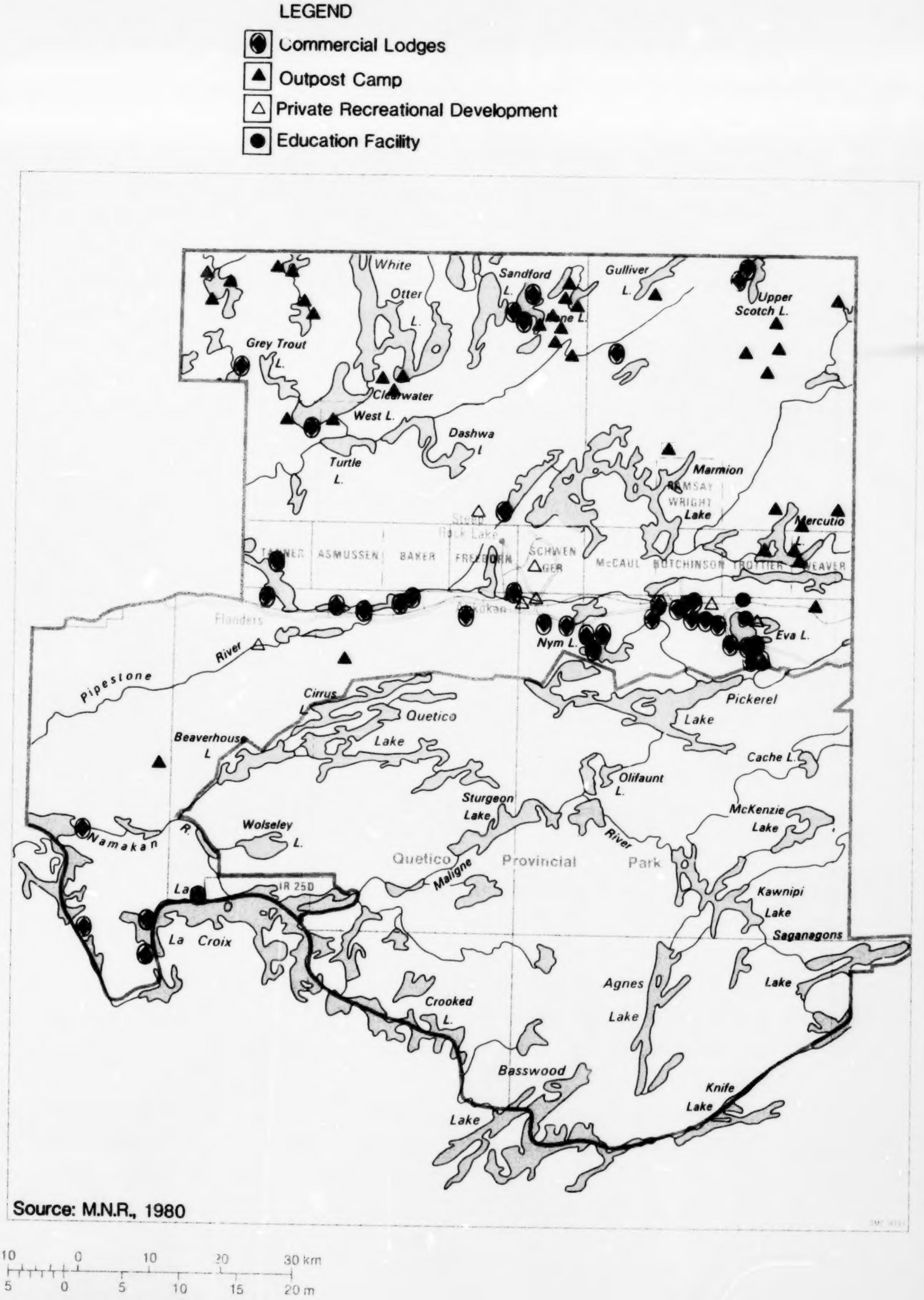
In the past, the Ministry of Natural Resources has made land available for commercial purposes and, in certain situations, will further authorize the use of Crown land for commercial purposes.

a. Resource and Use Analysis

Some potential exists for commercial operation expansions, although current land disposition policies have greatly reduced the number of lakes which can be considered for outpost camp development. One or two more lodges and an increase in tent and trailer sites is likely. Commercial recreation accommodations and attractions are not expected to experience any significant increase in the near future.

Commercial Recreation Facilities

Figure 34


LEGEND
● Commercial Lodges
▲ Outpost Camp
△ Private Recreational Development
● Education Facility
White Otter L.
Sandford L.
Gulliver L.
Upper Scotch L.
Grey Trout L.
Clearwater
West L.
Dashwa L.
Turtle L.
Marmion
RAMSAY WRIGHT Lake
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Flanders
River
Pipestone
Nym L.
Eva L.
Pickerel Lake
Cirrus L.
Quetico Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
McKenzie Lake
Namakan R.
Wolseley L.
Quetico Provincial Park
Maligne River
IR 25D
Kawnipi Lake
Saganagons Lake
La Croix
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980

A:fire

Wild fires are common throughout northern Ontario. Based on a 50 year average, the Atikokan District can expect about 35 wild fires per year. (Figure 35) Provincial policy states that all fires south of the 11th baseline, will be suppressed as quickly and efficiently as possible to:

a) prevent the loss of life from forest fires,

b) ensure on public land and to encourage and promote on private lands the preservation of property, aesthetics and forest values from uncontrolled forest fires to the degree warranted by government programs.

During the seven year period between 1975 - 1981 there were 378 fires, which burned 14,811 hectares. Fifty-one percent of the above total were man caused fires.

B:sensitive areas

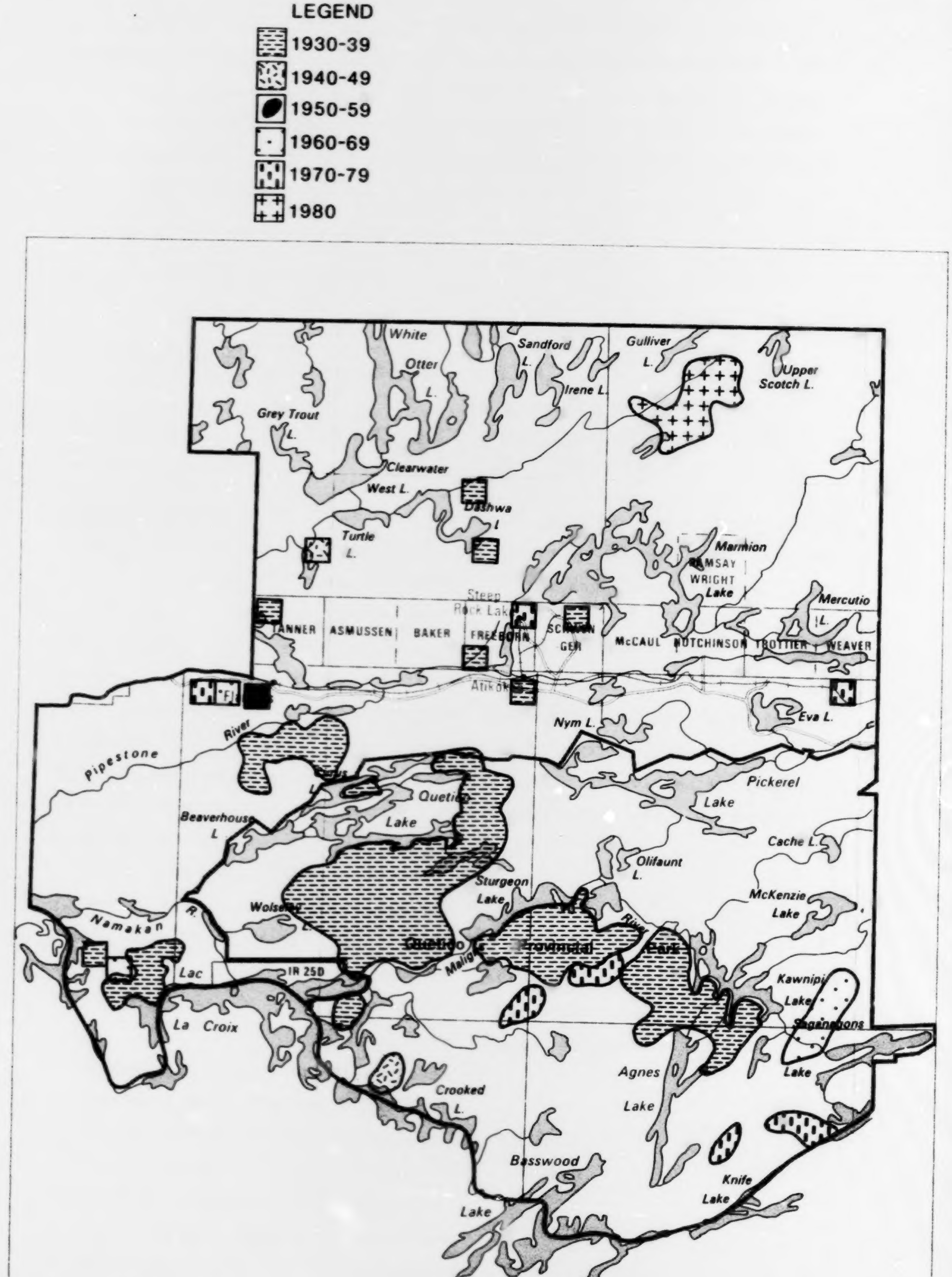
Sensitive areas are areas that contain features of value whose preservation is proposed.

A feature may be biological, geological, historical or cultural or a mixture of all or any combination. Sensitive areas may also be aesthetically pleasing with no relation to any scientific or educational purpose.

Sensitive areas include rock paintings, great blue heron breeding colonies, bald eagle and osprey nests, unusual plant communities or areas of unique visual significance. (Figure 36)

Fire History

Figure 35


LEGEND
1930-39
1940-49
1950-59
1960-69
1970-79
1980
White
Otter
L.
Sandford
L.
Gulliver
L.
Irene L.
Upper
Scotch L.
Grey Trout
L.
Clearwater
West L.
Dashwa
L
Turtle
L.
Marmion
RAMSAY
WRIGHT
Lake
Steep
Rock Lake
Mercutio
L.
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWAN
GER
McCAUL
HUTCHINSON
TROTTIER
WEAVER
Atikokan
Nym L.
Eva L.
River
Pipestone
Pickerel
Lake
Quetico
Lake
Beaverhouse
L.
Cache L.
Olifaunt
L.
Sturgeon
Lake
McKenzie
Lake
Namakan
R.
Wolseley
L.
Quetico
Provincial
Park
River
Maligne
Lac
IR 25D
La Croix
Kawnipi
Lake
Saganagons
Lake
Agnes
Lake
Crooked
L.
Basswood
Lake
Knife
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

Numerous sensitive areas in the Atikokan District have been recorded and are maintained on an up to date basis in an inventory binder. The Ministry of Natural Resources policy will ensure that sensitive areas will receive due consideration in the planning process and steps taken to ensure that the use of any of the sensitive sites is not detrimental to the features which make them valuable.

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c:earth and life science features

Several significant features have been identified in the Atikokan District by the Earth and Life Science Inventory Program. (Figure 36) The purpose of the program is to locate geological, floral and faunal features throughout the province and assess their significance within the district, region and province. The identified sites are then considered during the district land use planning exercise. Their value as a representative feature is assessed and they may then be given special designation (park reserve, sensitive area, etc.). This flagging is necessary to ensure they are noticed and considered when resource utilization activities are planned to occur in or around the specific site. Identified sites with Life Science features are:

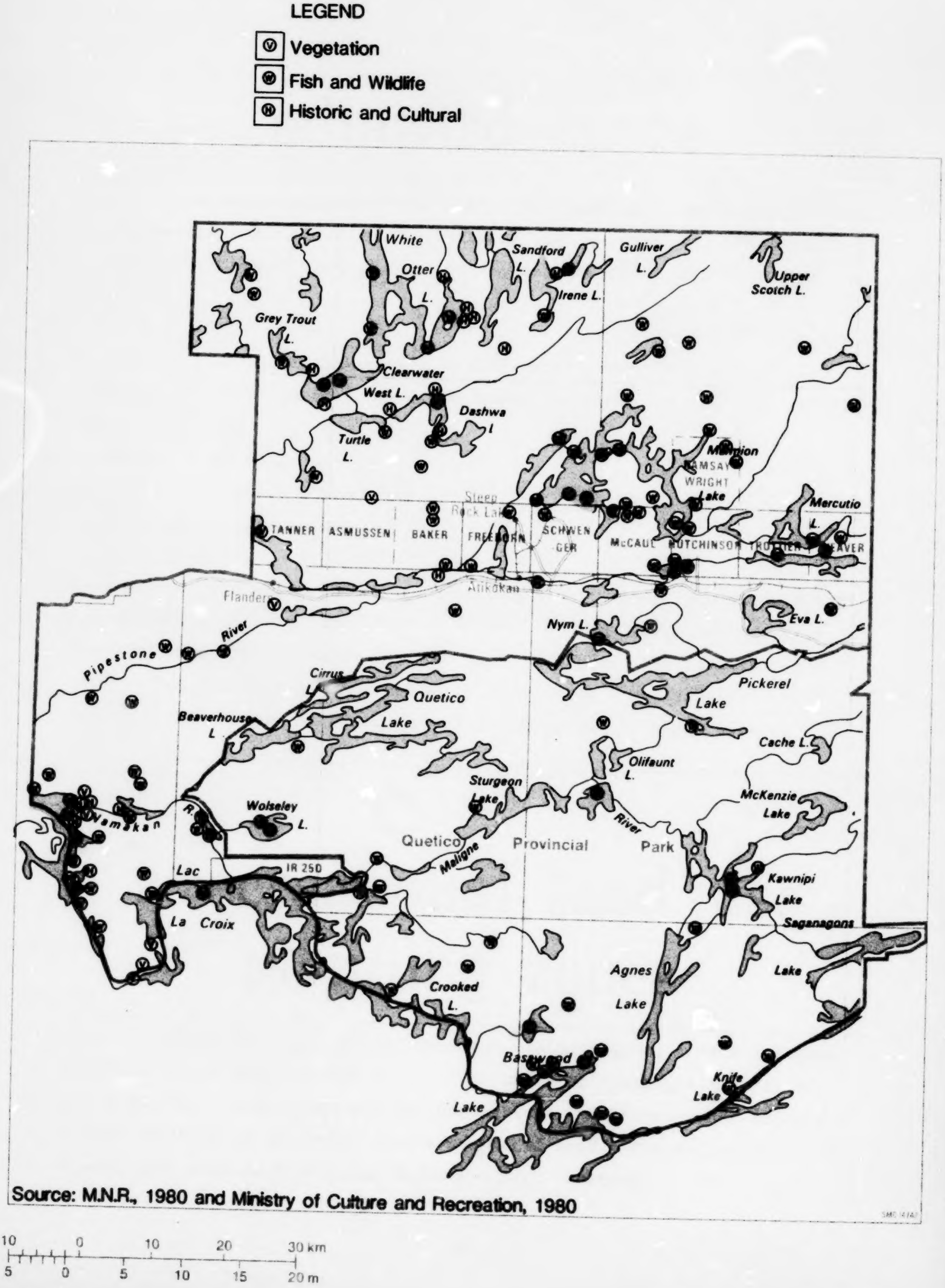
1. Long Muddy Lake - dune peatland
2. Warner Lake - Largetooth Aspen/Red Maple stand
3. Ann Bay (White Otter Lake) - Jack Pine stand
   - White Pine/White Birch
   - Birch, Pine, Spruce, Fir
   - Spruce, Sedge, Sphagnum
4. White Otter Lake - Red Pine stand
5. Namakan Lake - Ironwood stand
6. Beatty Portage location - Red and Bur Oak stands

Earth Science features include:

1. Warner Lake - Quetico Belt Bedrock, and
2. White Otter Lake - with its various surficial features.

Sensitive Areas

Figure 36


LEGEND
Ⓥ Vegetation
Ⓦ Fish and Wildlife
Ⓗ Historic and Cultural
White
Otter L.
Sandford L.
Gulliver L.
Irene L.
Upper Scotch L.
Grey Trout L.
Clearwater West L.
Dashwa L.
Turtle L.
Marmion Lake
RAMSAY
WRIGHT
Mercutio L.
Steep Rock Lake
TANNER
ASMUSSEN
BAKER
FREEBORN
SCHWENGER
McCAUL
HUTCHINSON
TROTTIER
BEAVER
Atikokan
Flanders
Eva L.
Nym L.
Pipestone River
Cirrus L.
Quetico Lake
Pickerel Lake
Beaverhouse L.
Cache L.
Olifaunt L.
Sturgeon Lake
Namakan R.
Wolseley L.
McKenzie Lake
Quetico Provincial Park
Maligne River
Lac La Croix
IR 25D
Kawnipi Lake
Saganagons Lake
Agnes Lake
Crooked L.
Basswood Lake
Knife Lake
10 0 10 20 30 km
5 0 5 10 15 20 m

Source: M.N.R., 1980 and Ministry of Culture and Recreation, 1980

D:hazard lands

Hazard lands which because of physical characteristics and/or location in combination with certain other natural and/or aritifical phenomena increase the risk of loss of life or significant property damage when developed.

The Ministry of Natural Resources hazard lands policy states land use planning and development control for hazardous lands are the most effective means to:

1. prevent loss of life
2. minimize property damage, and
3. minimize social disruption.

Hazard lands are minor within the planning area. There is a flood plain hazard associated with the Atikokan River. Little damage results from flooding except where urban development occurs along the river's flodd plain. The Township of Atikokan will be encouraged to identify accurately the limit of flood prone land along the Atikokan River.

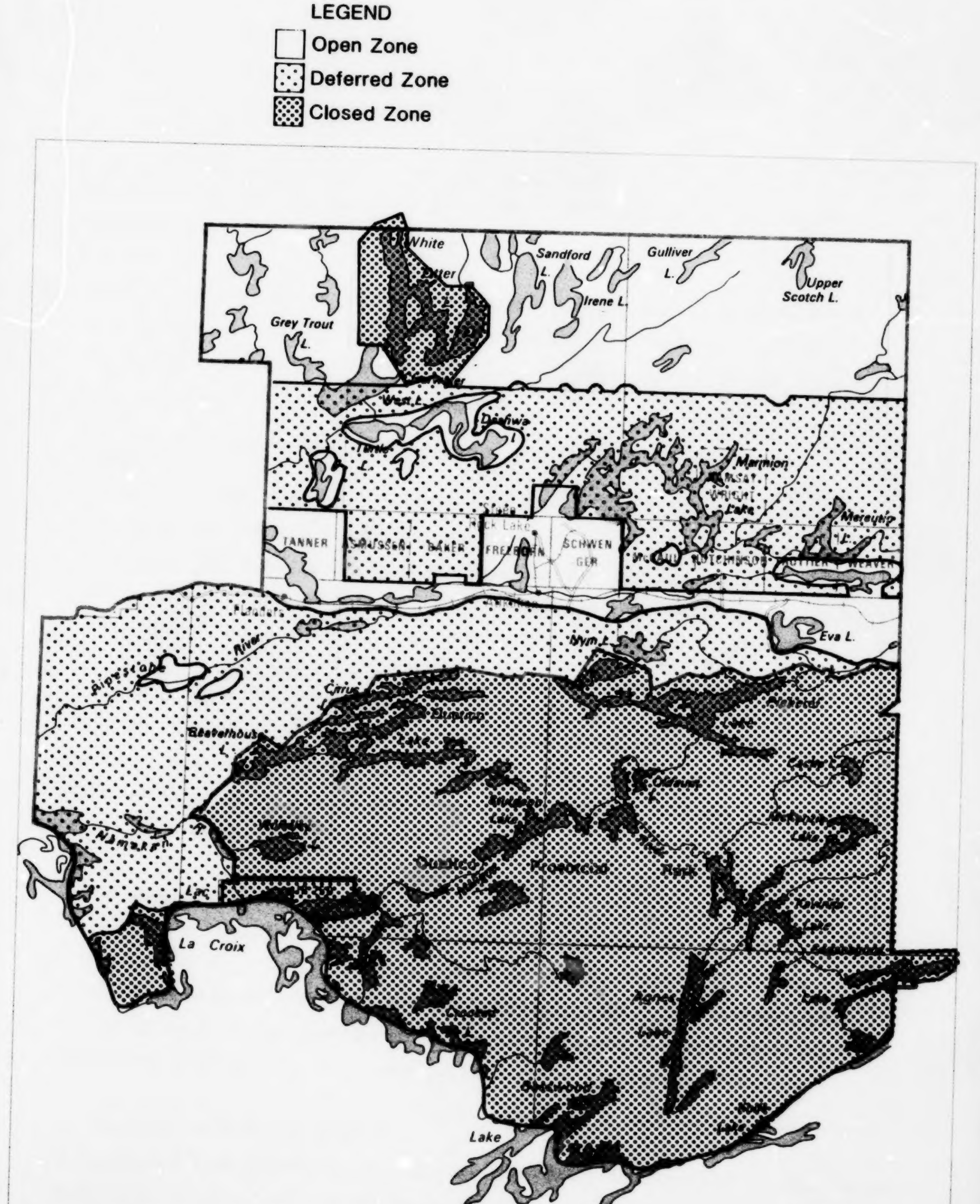
E:recreational land use planning zones

Figure 37 shows the recreational land use planning zones in the Atikokan District. Open zones permit disposition under existing policies as set out under The Public Lands Act and Regulations. Deferred zones require a Land Use Plan to determine future permitted uses. Areas closed to disposition include Provincial Parks and park reserves.

These planning zones will be replaced with the implementation of the DIstrict Land Use Plan.

Recreational Land Use Zones

Figure 37


LEGEND
☐ Open Zone
▨ Deferred Zone
▩ Closed Zone
White Otter L.
Sandford L.
Gulliver L.
Irene L.
Upper Scotch L.
Grey Trout L.
Marmion
Lake
Rock Lake
TANNER
BAKER
FREEBORN
SCHWEN GER
HUTCHINSON
WEAVER
Eva L.
Nym L.
River
La Croix
Lac
Namakan
Beaverhouse L.
Lake
10
0
10
20
30 km
5
0
5
10
15
20 m

Source: M.N.R., 1980

V OTHER AGENCY PLANS AND PROGRAMS

There are several non-Ministry planning programs on going within the Atikokan District.

Most of these programs are of a permanent nature involving large parcels of land and as such may have an effect on the policies and programs of the Ministry of Natural Resources. The following are major developments currently under way in the planning area.

1. MUNICIPAL

By-law 35 of the Municipal Planning Act covers all lands within the boundaries of the 372 square kilometers that constitute the Township of Atikokan. Approved in 1977, this zoning by-law defines specific zoning in the township and establishes the type of use that is permitted in each zone. An official plan for the township was approved February 20, 1979.

2. ATOMIC ENERGY OF CANADA LIMITED

In 1979, a geological research survey began 19 kilometers northwest of the Township of Atikokan. Rock samples are being collected by a drilling process in order to assess the potential ability of this and other similar areas to accommodate nuclear waste storage.

3. BENDING LAKE ROAD

In 1978, the Ministry of Transportation and Communications began the construction of a road that will link Atikokan to Highway #17. Its completion date is scheduled for approximately 1990. The intended uses for this road are to provide access to timber areas and the potential ore bodies at Bending Lake with an alternate route to Highway 17.

4. ATIKOKAN GENERATING STATION

A fossil-fuelled generating station is now under construction 11 kilometers northeast of Atikokan. Being built in units, by Ontario Hydro for future electrical power demands. It is scheduled for completion in 1984, with an economic lifetime of 30 years.

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5. BALMER, CRAPO AND ASSOCIATES INC. OF RECREATION/TOURISM RESEARCH, PLANNING AND MANAGEMENT

Was commissioned by the Township of Atikokan under the sponsorship of Ontario Ministry of Northern Affairs to submit a "Strategy and Action Plan for Tourism in the Atikokan area". This report was completed in December 1979.

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6. CONTAMINANT MONITORING

With the construction of the coal fired Marmion Lake Generating Station by Ontario Hydro near Atikokan, study sites throughout the district have been established to measure contaminant levels (prior to plant start up). Acid rain data will be obtained through the program being jointly carried out by the Ministry of the Environment, Ontario Hydro and Ministry of Natural Resources. The interpretation of the study results will assist in evaluating the degree of impact acid rain is having in the district.

The Ministry of the Environment publication - *The Case Against Acid Rain* - a report on acidic precipitation and Ontario Programme for remdial action outlines the problem on a provincial basis and presents remedial recommendations.

VI PROBLEMS AND ISSUES

Certain problems and issues are apparent within the district.

Identification of problems and issues is difficult and the following should in no way be considered an exhaustive list. Others will undoubtably arise during the public participation part of the planning exercise and during detailed in-house reviews.

Some of the issues are of immediate local concern, others are of a more broad nature provincially, nationally, and in the case of acid rain, international in scope.

Solutions to the identified problem are not given. A change in approach to a given issue may result from the above noted reviews. No priority has been given to the identified problem or issue.

1. CROWN LAND CAMPING

This is a basic concern of the Ministry of Natural Resources who have to manage and clean up after users; local residents who see more residents and non-residents as undesireable competition for recreational resources, and commercial outfitters and tourist lodge operators who see Crown land campers as lost business.

2. LOGGING ROADS

Logging roads will access nearly all of the district within the next ten years. Management of other resources (lake trout, moose) are a concern of the Ministry of Natural Resources. The loss of remote isolated lakes for the outpost camp industry is a concern of the tourist industry. With roads comes Crown land campers and the need to provide garbage dumps, camping areas, boat launching facilities.

3. BIG GAME PRODUCTION AND LOGGING

A concern of the Ministry of Natural Resources, the timber industry, hunters and wildlife managers. Some extraction practises are not compatible with big game habitat management.

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4. WATER LEVELS

Sudden and extreme level changes on the Seine River System concern Ministry of Natural Resources fishery managers because of the detrimental impact on reproduction. This impact has a subsequent impact on the tourist operators and local sportsmen.

---

5. TOURISM

With the loss of the local iron mines (Steep Rock and Caland) the economic base to Atikokan collapsed. Reduction to other industries particularily tourism to replace the base is presenting definite and serious problems for both the Ministry of Natural Resources and the town.

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6. THE MARMION LAKE HYDRO GENERATING STATION

While providing jobs and income for the town has created environmental concerns such as acid rain and water temperatures on Marmion Lake and the subsequent impact on flora and fauna in the area.

---

7. LAKE TROUT

The Atikokan District has 164 lakes that contain lake trout. This species requires special management which can affect other resource utilization activities such as cottaging, tourism and timber harvesting.

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8. FIBER AND SAWLOG PRODUCTION

Current demand for Jack Pine and Spruce appear to exceed the available supply.

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9. NON-RESIDENTS

Although related to the tourism problem, it can be said that non-residents definitely obtain considerable benefits from district resources and in many cases, contribute little to the local economy.

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10. BENDING LAKE ROAD

The road will open up the previously inaccessible northwest corner of the district. Careful planning along the road corridors will be required to ensure adequate protection to lake trout waters and the development of private and commercial recreation facilities.

11. FOREST UTILIZATION

Present cutting operations are exceeding regeneration operations. The Ministry of Natural Resources, presently carries out all regeneration work in the district.

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12. THE ATOMIC ENERGY OF CANADA LIMITED TEST DRILLING SITE

This research activity has caused considerable concern regarding the possibility of storing nuclear waste within the district.

---

13. SHORELINE RESERVATIONS

Tie up a considerable amount of timber. While they are desireable from a recreational point of view, the high percentage of water versus land in the district results in the potential loss of significant future volumes.

---

14. MINING ACTIVITIES

Conflict with timber extraction operation when claim posts, survey and grid lines on mining claims are obliterated by cutting activities.

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15. LOSS OF FOREST PRODUCTION LAND

Loss by other developments such as roads, powerlines, etc., annually reduce the long term renewable wood future availability.

---

16. ACID RAIN

Acid rain is a major problem in North America. It is mainly caused by emissions, from automobiles and also factories that burn coal. Acid rain evolves through a four stage cycle - sulphur and nitrogen emissions, long range atmospheric transport, transportation of chemical compounds and fallout to earth through precipitation or dry deposition. The sulphur and nitrogen pollutants can move thousands of kilometers. The acids come to earth as acidified rain or snow or as dry particulates or gases. The chief concern about acid is that it affects aquatic life in lakes and watersheds. Lakes and streams in these areas have very little buffering or neutralizing capabilities. They become so acidic that they no longer support fish and other aquatic life. Also, acidification can retard fish reproduction. It has also been shown acid rain reduces forest and crop growth.

The district's geology is basically granitic and most of its lakes are deep, clear and cold; extremely vulnerable to acidification.

GLOSSARY

Allowable Cut	The calculated amount of timber that can be harvested annually under sustained yield management.
Capability	The natural ability of an area to provide continuous opportunity for benefits under an assumed level of management.
Capacity	The upper limit to which an area of land, or water, may be used or developed without an undesirable change taking place in the environment. Also called carrying capacity.
Coarse Fish	Species of fish which are generally not pursued by anglers such as; suckers, burbot and chub.
Crown Land	Any lands vested to Her Majesty in Right of Ontario, whether or not covered with water, commonly referred to as public land.
Crown Lease	A grant of leasehold rights on a parcel of Crown Land for a specific purpose over a specified period of time which is generally longer than would be the case with a land use permit.
Forest Management	The practical application of the scientific, technical and economic principles of forestry.
Game Fish	Those top predator species usually pursued by anglers such as pickerel, pike and trout.
Greenstone	Any of numerous, usually altered, dark green compact rocks which are generally indicative of high mineral potential areas.
Intrusive	Having penetrated while fluid, into or between other rocks, but solidifying before reaching the surface.
Land Use	The human use of the planning area. This may vary from very intensive use in the urban areas to very extensive use in wildland areas.
Land Use Permit	A document, with an attached annual fee, permitting occupation of public land for a period not exceeding one year.
Management Plan	The means by which forest policy, aims and objectives are translated into a continuity of specific treatments for a particular forest area.
Management Unit	A forest area under one ownership or assigned rights to the timber thereon, organized for efficient administration and control and operated according to one management plan.

Massive	Of homogenous structure, without stratification, flowbanding, foliation, schistosity, and the like.
Mesotrophic	Of intermediate fertility and productivity.
Metamorphic Rock	Rock which has formed in the solid state in response to pronounced changes of temperature, pressure, and chemical environment.
Metasedimentary Rock	Partly metamorphosed sedimentary rock.
Metavolcanic Rock	Partly metamorphosed volcanic rock.
Objective	A quantifiable end result to be achieved.
Oligotrophic	Of very low fertility and productivity.
Patent Lands	Land transferred from Her Majesty in the Right of Ontario to an individual, company, or corporation in perpetuity.
Policy	The decision concerning the objectives to be achieved and the means of achieving them. For land use planning we are mainly concerned with the objectives and targets.
Protection Forest	An area wholly or partially covered with woody growth, managed primarily to regulate stream flow, prevent erosion, hold shifting sand, or exert any other beneficial influence.
Resource	Any commodity that meets a need.
Resource Management	The wise use of a particular resource, eg., forest, to achieve a specific end.
Sustained Yield	The principle by which a resource (forest, wildlife, fisheries) is managed to produce a specific yield on a continuous annual basis.
Working Group	An aggregate of forest stands including potential forest areas characterized by the same predominant species and managed under the same rotation and broad silvicultural system.

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ERRATA

Page 5	**Line 22**	**areal should read aerial**
Page 6	**Line 6-8**	**should read "The medasedimentary rocks are commonly comprised of sandstone, mudstone and related rock types and as the distance from the Quetico Fault increases the degree of**
Page 8	**Line 23**	**deverse and numerous ecosystem should read deverse ecosystem**
Page 9	Line 2	Figure 6 should follow on Line 5
Page 9	Line 24	or should read to
Page 12	Line 4	should read, The inclusion of limited more southerly species
Page 12	Line 20	lifeways should read ways of life
Page 13	Line 14	shore lines should read shorelines
Page 15	Line 9	cultural should read culture
Page 16	Line 5	enroute should read en route
Page 16	Line 9	fur bearers should read furbearers
Page 16	Line 12	for should read the
Page 16	Line 14	Grande should read Grand
Page 16	Line 17	Saganons should read Saganaga
Page 16	Line 25	Noyons should read Noyon
Page 17	Line 6	of the extinction should read of extinction
Page 17	Line 7	should read species of furbearers
Page 17	Line 7	further should read farther
Page 17	Line 23	outside of should read except for
Page 17	Line 25	McLarens should read McLaurins
Page 17	Line 30	for the wood should read for wood
Page 17	Line 37	sighted should read removed
Page 26	Line 8	dewater should read drain
Page 29	Table 4	Gold Production in the Atikokan District 1897 - 1966
Page 30	Line 8	porphry should read porphyry
Page 33	Line 6	180,553 should read 780,826
Page 39		should read page 39
Page 39	Line 19	226.53 should read 226,530
Page 40	Line 8	1,600 mbm should read 3,733 cubic metres
Page 42	Line 32	utiize should read utilize
Page 42	Line 13	couple should read few
Page 46	Line 19	92 should read 96
Page 49	Line 8	predominate should read predominant
Page 49	Line 18	moderate to low should read moderate
Page 51	Line 1&2	anterless should read antlerless
Page 52	Line 3	remove sentence
Page 53	Line 11	beavers should read beaver
Page 58	Line 31	24,640 should read 24,281
Page 61	Line 3	12 should read 16
Page 66	Line 2	DIstrict should read District